SERVICE MANUAL

WINNER 2004

handicare

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This manual **5**
Product reference **6**
Available documentation **8**
Service and technical support **8**
Identification plate **8**
Identification of the product **8**
Warranty **9**
Used scooters and the environment **10**
Use according to purpose[1] **10**
1. General safety regulations and instructions **11**
1.1. Decals and instructions on the scooter 11
1.2. Technical specifications 11
1.3. Modifications 11
1.4. Safety 11
2. Adjustment options **13**
2.1. Seat adjustments 13
2.1.1. Adjusting the seat height and depth 13
2.1.2. Backrest adjustment 13
2.1.3. Lower-backrest adjustment 13
2.1.4. Adjusting the arm-rest 14
2.1.5. Adjusting the headrest (option) 14
2.2. Adjusting the steering column 14
3. Drive programs **15**
3.1. Controller settings Winner Solo 15
3.2. Controller settings Winner S-drive 120A 16
3.3. Controller settings Winner S-drive 140A Schmid MK1 D51313. 17
3.4. Controller settings Winner S-drive 140A Schmid MK2 D51446. 18
3.5. Controller settings Winner S-drive 140A Schmid Alpine MK1 D51313. 19
3.6. Controller settings Winner S-drive 140A Schmid Alpine MK2 D51446. 20
3.7. Controller settings Winner S-drive 140A CT Reduced speed. 21
3.8. Controller settings Winner S-drive 140A CT MK1 D51313. 22
3.9. Controller settings Winner S-drive 140A CT MK2 D51446. 24
3.10. Electrical Diagram S-Drive 25
3.11. Connections printed circuit board 26
4. Technical specifications **27**
4.1. Product specifications 27
4.1.1. Winner 27
4.2. Approval 28
4.3. Service information transaxles. 28
5. Use of the parts lists **29**
001: SCOOTER ASSY (3W) 30
002: SCOOTER ASSY (4W) 31
003: CONSOLE TOP COVER ASSY 32
004: CONSOLE BOTTOM COVER ASSY 33
005: CONSOLE PANEL ASSY 34
006: WIG-WAG ASSY 35
007: TILLER ASSY 36
008: CHANNEL FRONT ASSY 37
009: BACK TILLER SHROUD ASSY 38
010: SCOOTER ASSY (3W) 39
011: SCOOTER ASSY (4W) 40
012: FRONT TIRE ASSY (3W) 41
013: FRONT FORK (3W) 42
014: FRONT FORK ASSY (3W) 43
015: FRONT FRAME ASSY (3W) 44
016: FRONT FRAME ASSY (4W) 45
017: KNUCKLE RHS ASSY (4W) 47
018: KNUCKLE LHS ASSY (4W) 48
019: FLOORPAN ASSY (3W) 49
020: SCOOTER ASSY (3W) 50
021: FLOORPAN ASSY (4W) 51
022: SCOOTER ASSY (4W) 52
023: BODY FRAME ASSY (3W) 53
024: BODY FRAME ASSY (4W) 54

025: REAR FRAME ASSY 55
026: REAR TIRE ASSY 56
027: TRANSAXLE ASSY 57
028: TRANSAXLE STANDARD 58
029: TRANSAXLE ALPINE 59
030: SCOOTER ASSY (3W) 60
031: SCOOTER ASSY (4W) 61
032: BATTERY COVER ASSY 62
033: REAR MOTOR COVER ASSY 63
034: CONTROLLER COVER ASSY 64
035: CONTROLLER ASSY 65
036: SEAT & SEAT FRAME 66

This manual

This manual contains the basic instructions for repairs and general maintenance of the Winner electric scooter. Mechanics who do repairs on this scooter must be well trained and familiar with the repair methods and the maintenance of the Winner electric scooter.
It is important to see to it that work is always done safely, particularly with respect to activities where the scooter must be lifted up.
We advise that you contact our service department before doing repair work on a scooter that has been involved in an accident.
The following specifications are important when ordering parts:

- Model
- Manufacture year
- Color
- Identification number
- Part number
- Name of the relevant part

This information can be found on the identification plate. See 'Identification of the product'.

Product reference

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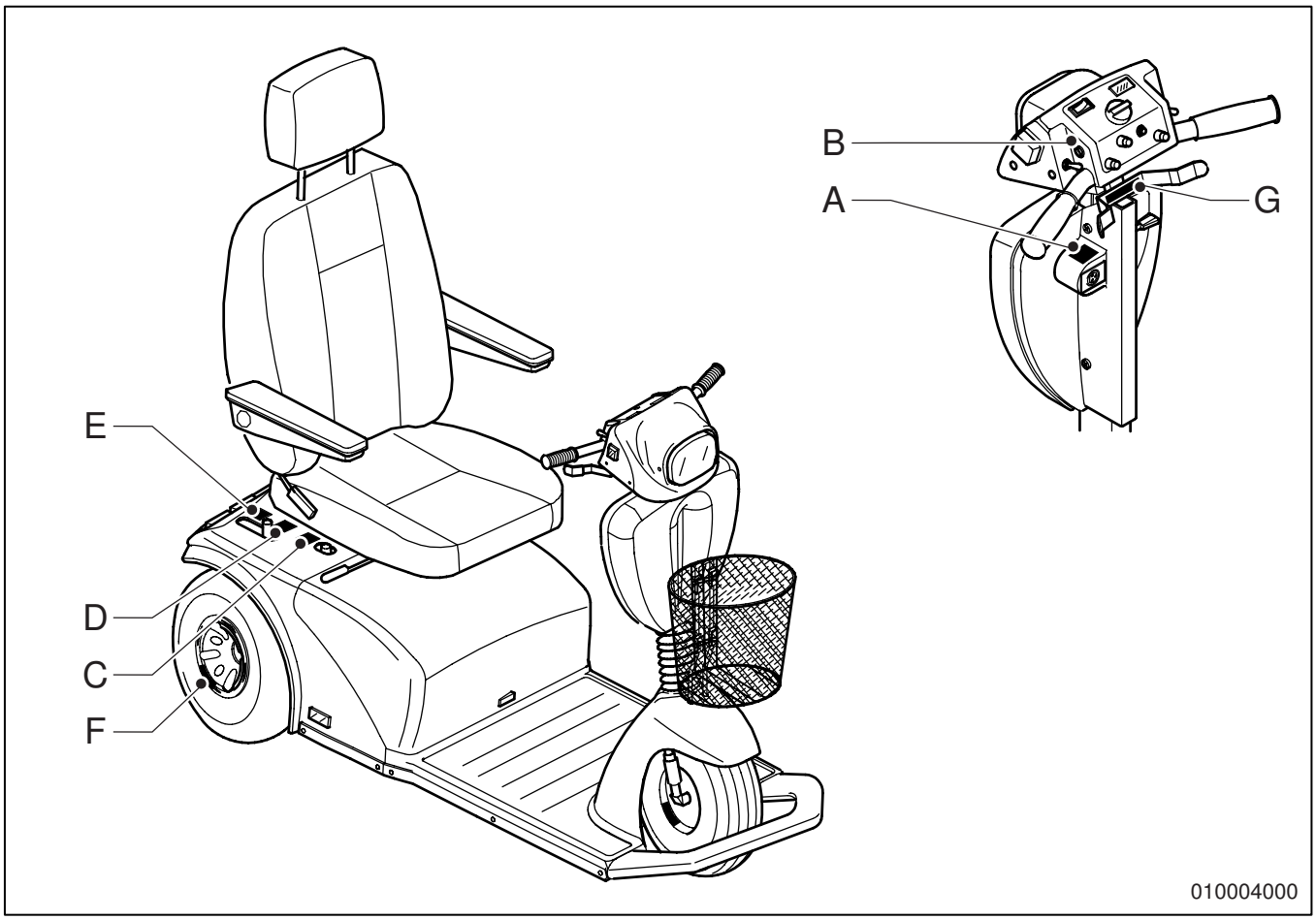
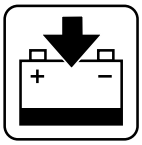


The product has the following decals and labels.

A. Charging connection
B. Fuse for lighting
C. Automatic fuse
D. Driving
E. Pushing
F. Tire pressure wheels
G. Reverse – Forward drive



A. Charging connection

For charging the batteries, see 'charging'.

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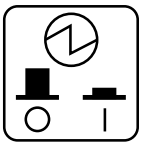
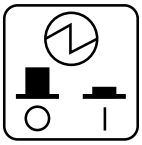


B. Fuse for the lighting

Here you find the fuse for the lighting. See 'Product specifications'.



C. Automatic fuse

The scooter has a safety fuse feature. See 'automatic fuse' and 'faults'.

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D. Driving

The drive of the motor is switched on: the scooter can be electrically driven.

E. Pushing

The drive of the motor is disconnected: the scooter can be pushed electrically.

F. Tire pressure wheels

For tire pressure of the wheels, see 'product specification sheet'.

G. Reverse – Forward drive

When the operating handle is pressed, the scooter will drive forward or in reverse. See ‘Driving forward and in reverse’.
The following pictograms are used in this manual:

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CAUTION
Procedures that can result - if they are not executed properly - in damage to the product, the environment, or human injury.

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ATTENTION!
Suggestions and advice for conducting the relevant tasks or activities more easily.

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Consult the specified information source(s) first.

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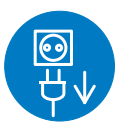

Pull the charge cord out of the charging connection of the scooter before doing any maintenance on the scooter.

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Available documentation

The following technical documentation is available / required to service this scooter:
- Owner's manual
- Service manual.

XXXXXX-010005000-en.doc

Service and technical support

For information concerning specific settings, maintenance or repair work please contacts your dealer. He is always prepared to help you.
Ensure you have at hand:

Model
Manufacture year
Identification number

This information can be found on the identification plate. See 'Identification of the product'.

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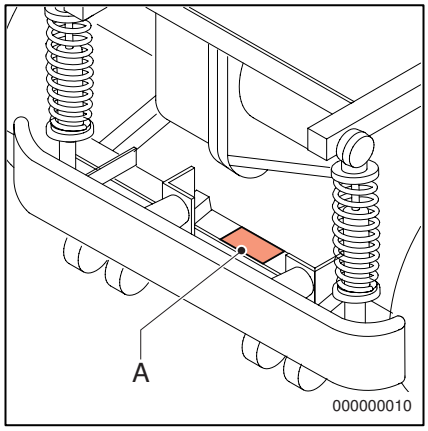
Identification plate

- See fig. 000000010.

On this plate (A) information on the product can be found. See: 'Identification of the product'.



Identification of the product

- See fig. 010007010.

A. Model
B. Manufacture year
C. Identification number
D. User area indoors or outdoors
E. Maximum load in kg

- For the place of the identification plate, see 'main components'.

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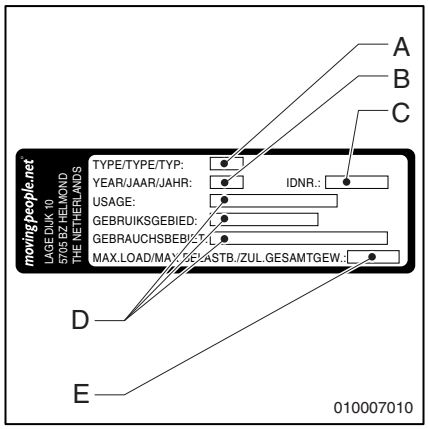

Warranty

Definitions of terms used in this warranty:

- Consumable part: Part that is subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product (section 9 of Handicare's general terms and conditions of sale);
- Client: Those who purchase the product directly from Handicare;
- Corrective action: Repair, replace or refund of the product;
- Dealer: Those who re-sell the product to the User;
- Defect: Any circumstance due to which the product is not sound or fit to use, caused by a lack of quality of the material used to manufacture the product as well as the quality of the manufacturing process;
- Option: An accessory delivered by Handicare to extend the standard product model;
- Product: Product that is delivered according to brochure or contract (e.g. wheelchair, scooter, battery-charger etc.);
- Part: Part of product that can be exchanged or replaced. This can be an option, accessory, service part or consumable part;
- Returns: Product or part that needs to be returned;
- RMA-process: Process to return goods, contact Handicare's Customer Service;
- Service part: Part that is durable and may be subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product.;
- User: Those who use the product;
- Warranty: The rights and obligations set forth in this document;
- Warranty period: The period of time during which the warranty is valid;
- Warranty provider: Handicare B.V., Vossenbeemd 104, 5705 CL Helmond, The Netherlands.

Notwithstanding the rights and obligations of Handicare, Client and User set forth in Handicare's general terms and conditions of sale, the rights of the Client and/or User towards Handicare in case of defects are limited to the provisions set forth in this warranty. For the duration of the warranty period Handicare guarantees that the product is without defects.
In case of any defects the User is required –within two weeks after discovery of the defect- to contact the dealer. He has to complete a return form and return the product or part via the RMA-process. Handicare will, at its sole discretion, take the corrective action it seems fit under the given circumstances within a reasonable period of time (depends on nature of claim) from receipt of the completed return form. The warranty period will not be extended after a corrective action.

Warranty period table

Power wheelchairs / scooters

Description	Warranty period	Examples include, but are not limited to the parts mentioned below
Frame	2 years	Weldment/frame
Drive system	1 year	Transaxle, motor, motor brake
Electronics	1 year	Controller, controlling mechanism, wiring harness, electronic components
Service Parts	New: 1 year after invoice Repaired: 90 days after invoice	Brakes
Consumable parts	40 days after invoice	Wheels, push handles etc.
Options/Accessories	2 years	Mirror, mudguards etc. Not being service part or consumable part.

Handicare will only accept shipment costs and corrective costs related to warranty on equipment during the warranty period.

This warranty will void in case of:

- The product and/or its parts being modified or items having been added by others than Handicare;
- Changes in cosmetic appearance by use;
- Failure to observe the instructions for use and maintenance, use other than normal use, wear and tear, negligence, collateral damage by neglect of earlier symptoms, overloading, third-party accidents, non-original parts used and defects not caused by the product;
- Circumstances beyond our control (flood, fire, etc.).

This warranty does not cover:
- Tyres and inner tubes
- Batteries (covered by the battery manufacturer's warranty).

Clients and/or Users have legal (statutory) rights under applicable national laws relating to the sale of consumer products. This warranty does not affect statutory rights you may have nor those rights that cannot be excluded or limited, nor rights against the entity from whom the product was purchased. Clients may assert any rights they have at their sole discretion.

Used scooters and the environment

If your scooter has become superfluous or needs to be replaced, it can usually be taken back by your dealer. If this is not possible, please contact your local authorities for the possibilities of recycling or an environmentally friendly way of disposing of the used materials.
For the production of the scooter several plastics and metals have been used. The scooter also contains electronic components that must go to electronic waste. Used batteries belong to chemical waste.

Use according to purpose[1]

The scooter Winner was designed for:
- transport of persons with a weight of up to 159 kg
- use on paved roads, sidewalks, footways, and bike-ways.
- use in and around the house

Your supplier should give you good user's instructions before you can independently operate the product and participate in traffic.
You must be able to correct the consequences of actions while driving the Winner.
Consider operating the Winner scooter under the monitoring of an experienced dealer during first operations.
The Winner scooter is not a motorized vehicle in the traffic regulations sense.

The Winner has a maximum speed of approximately 12 or 15 km/h (7 or 10 mph), depending on the model.

PLEASE MAKE SURE YOU ARE WELL ACQUAINTED WITH THE CONTENTS OF THIS OWNER'S MANUAL BEFORE DRIVING THE WINNER.

If you use the scooter for other purposes than those for which it is intended, Handicare accepts no liability whatsoever for damage or injury resulting from such use other than that for which the scooter was developed and designed.

'Use according to purpose' as established in EN 292-1 is the use for which the technical product is suitable according to the statement of the manufacturer, including his instructions in the sales brochure. In case of doubt this is the use that follows from the construction, execution and function of the product. Use according to purpose also includes taking into consideration the instructions in the owner's manual.

1. General safety regulations and instructions

Handicare accepts no liability whatsoever for damage or injury caused by the failure to (strictly) adhere to the safety guidelines and instructions or else due to carelessness during the use and cleaning of the scooter and possible accessories. Depending on the specific work circumstances or the accessories used, additional safety instructions may be required. Please contact your dealer immediately if you observe a potential danger during the use of the product.

The user of the scooter (see under 'use according to purpose') is at all times fully responsible for the fulfillment of the locally applicable safety regulations and guidelines.

1.1. Decals and instructions on the scooter

Signs, symbols and instructions placed on this scooter comprise part of its safety facilities. They must never be covered or removed and must remain present and clearly legible throughout the entire life span of the scooter. Immediately replace or repair illegible or damaged signs, symbols and instructions. Contact your dealer with regard to this.

1.2. Technical specifications

The technical specifications may not be changed.

1.3. Modifications

Modification of (parts of) this product is not permitted.

1.4. Safety

To avoid accidents and undesirable situations, it is of great importance to pay attention to the following safety instructions.

- *Pay extra attention to riding on slopes:*
  - *Never drive the Winner up a slope with an angle greater than 11 °.*
  - *On slopes always drive slowly and with awareness.*
  - *Never drive down a slope at full speed.*
  - *Do not drive down slopes with loose gravel or a sandy surface, because one of the back wheels might slip.*
  - *Do not turn on a slope.*
- *Never take curves at full speed. Decrease speed on the approach and on the curve.*

- *Be sure that no items of clothing hang loose. These could become caught between the wheels.*
- *Make sure your fingers do not get caught in the mechanism of the steering adjustment.*

- *Adjust your driving according to the circumstances:*
  - *Drive carefully on slippery roads, resulting from rain, ice, or snow!*
  - *Drive more slowly in crowded environments.*
  - *Do not use the scooter on uneven roads.*
  - *Avoid the Winner from coming into contact with seawater. Seawater is caustic and may damage the scooter.*
  - *Avoid the Winner from coming into contact with sand. Sand can affect the moving parts of the scooter, resulting in unnecessarily rapid wear.*
- *Never operate the scooter when you are under the influence of drugs, alcohol or medication that could affect your driving ability.*
- *You must have sufficient visual acuity to be able to drive safely in the scooter.*
- *You are obliged to put the lights on when the view is hindered.*
- *Only use the indicator lights to indicate an intended change in driving direction.*
- *Only use the horn when it is necessary to warn pedestrians of other road users of dangerous circumstances.*

- *Never place metal parts on top of the batteries: this may cause a short in the batteries, resulting in damage.*
- *Do not take along any passengers: your scooter was specifically designed to transport only yourself.*
- *Do not burden your scooter with any more load than can be placed in the basket.*
- *Never hang anything from the handlebars.*

- *Never use your scooter to pull a cart: the scooter was not designed for this. Anyway, it is prohibited to do so. You might seriously damage your scooter if you do.*
- *Do not use the footplate as a step.*
- *Do not place your feet close to the front wheel and the front fork. Always keep your feet on the rubber mat, rather than against the front cover.*

- *The scooter is electronically operated. Certain parameters have been factory-set. These settings guarantee a comfortable and efficient use. It is not permitted to change these parameters.*
- *The standard version of your scooter was tested according to the strictest EMC requirements. Mobile telephones have no influence on the driving behaviour of the scooter.*
  When using a mobile telephone in the vicinity of a scooter with special adaptations, you are advised to first switch off the scooter.
- *Your scooter may influence electromagnetic fields such as alarm systems.*
- *If the electronics of the scooter is not properly screened off, this may affect sensitive electrical appliances, such as shop alarms and garage openers. The scooter has been tested for this. Should any problems of this nature occur, please report these to your supplier immediately.*

- *Take care in ultra-violet light: this may cause premature deterioration of materials such as rubber, plastic, and enamel.*
- *Watch out for protruding parts: these may damage your scooter or the environment.*
- *Keep your scooter away from open flames.*

2. Adjustment options

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2.1. Seat adjustments

The Winner seat offers a number of adjustment options to increase the sitting and driving comfort.

The following may be adjusted:
A. Seat height and depth
B. Backrest
C. Lower-back rest
D. Arm-rests
E. Headrest
F. Steering column

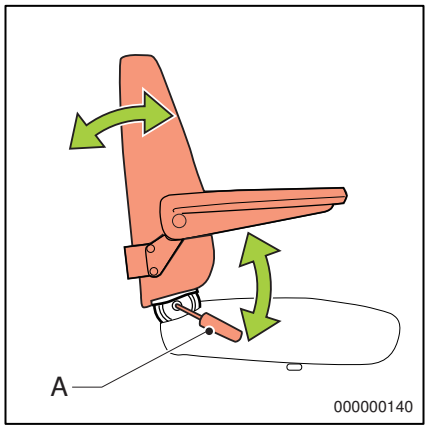
2.1.1. Adjusting the seat height and depth

The whole seat may be adjusted as follows:
- 10 cm in height
- 10 cm in forward direction

Both adjustments should be made by the dealer.

2.1.2. Backrest adjustment

- See fig. 000000140.



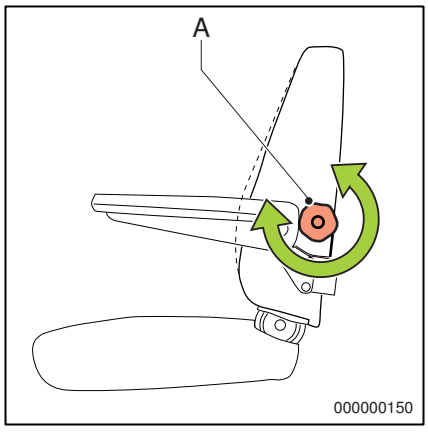
The backrest is continuously adjustable, from a fully horizontal to a fully vertical position.
The adjustment must be done as follows:
- Pull up the handle (A) while you are on the seat.
  The backrest will now automatically move forward.
- Press the backrest backward by leaning back to a position that is most comfortable for you.
- After adjustment, push the handle down to secure the backrest in the position you have chosen.

Attention:
Do not operate the handle if the seat is unoccupied, because the backrest will come forward very powerfully.

The backrest must be adjusted in such a way that your back is properly supported while driving. If the backrest is tilted too far backwards, this will negatively influence the seating stability, especially on slopes.

2.1.3. Lower-backrest adjustment

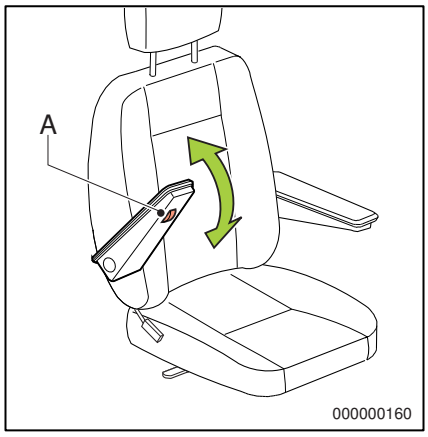
- See fig. 000000150.



The lower-backrest can be adjusted to various positions, varying from more or less support in the lower-back area.

The adjustment must be done as follows:
- Seat yourself on the seat.
- Turn knob (A) in such a way that the lower-backrest reaches the most optimal position for you.

2.1.4. Adjusting the arm-rest



- See fig. 000000160.

Both armrests can be folded up completely. The height and the angle of the armrest can be adjusted.

The adjustment must be done as follows:
- Turn wheel (A) to adjust the height and the angle of the arm-rest.

Attention: if the position of the backrest is adjusted, the position of the
Armrests will change along with it.

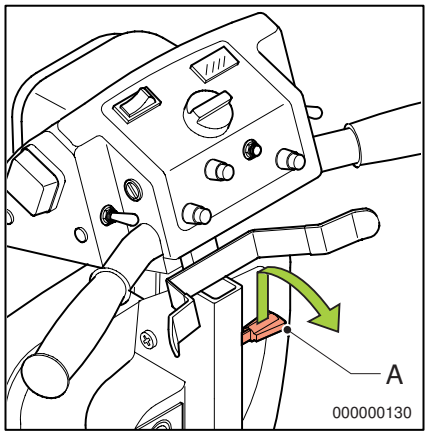
2.1.5. Adjusting the headrest (option)

The headrest can be adjusted as follows:
- Three height adjustments
- Tilting forward and back

Adjusting the height of the headrest
The headrest can be pulled up by hand, and will lock into one of three positions by means of a click.

Tilting the headrest:
The headrest can be tilted by hand until the desired position is reached.

2.2. Adjusting the steering column



- See fig. 000000130.

The steering column can be adjusted as follows:
- Pull up handle (A) with one hand, while at the same time pulling the steering column towards you with the other, until the most comfortable position is reached.
- Release the handle in the chosen position. Then, release the steering column.

If you release the steering column while still holding up the handle, the gas-spring-loaded steering column will move to its most forward position.

Use caution when adjusting the steering column, to avoid getting your fingers jammed.

3. Drive programs

A hand held programmer is deliverable for programming the Winner with Solo controller. An user maunal belongs to the delivery of this manual. For the Winner with S-Drive controller there is a software program available but it's also programmable with the hand held programmer.

The driving programs for Handicare products can be found on our FTP server.
Log on to the FTP server:

- Open internet explorer
- Go to ftp://mobilityftp.handicare.com
- Enter user name and password
  User name: dealer@mobilityftp.handicare.com
  Password: dealer
- You will be logged on
- Select your wheelchair and the appropriate controller
- Click the file to download

The standard adjustments are stated in the table below.

3.1. Controller settings Winner Solo

Function	Range	Resolution	High	Low
Forward Acceleration	0.1 to 10s, Fast/Slow	100 ms	30	30
Forward Deceleration	0.1 to 10s, Fast/Slow	100 ms	12	12
Reverse Acceleration	0.1 to 10s, Fast/Slow	100 ms	35	35
Reverse Deceleration	0.1 to 10s, Fast/Slow	100 ms	35	35
Forward speed	0 to 100%, Fast/Slow	1%	100	100
Reverse Speed	0 to 100%, Fast/Slow	1%	40	40
Invert Throttle Polarity	Yes/No		Yes	
Power Down Timer	0 to 20 minutes	1 min	0	
Help Mode	On-line help text	*	Not programmable	
Diagnostics	Fault codes from Solo	*	Not programmable	
Current Limit	20A to max rating	1A	110	
Motor Compensation	0 to 1W	5 mW	45	
Hold Factor	100 to 420%	4%	152	
Mid Current	0 to 100%, 1 to 255s	1%, 1s	15	50
Brake Time	0 to 1s	10 ms	80	
ISO Test	On / Off		On	
Inhibit Polarity	Hi / Lo		Lo	
Bridge Hold Time	0 to 5s	20 ms	60	
Throttle Gain	0 to 1250%	5%	150	
Pulse Reverse Alarm	Yes / No		Yes	
Wig-wag Throttle	Yes / No		Yes	
Low Battery Flash Inhibit	Yes / No		No	
Throttle Deadband	3% to 100%	1%	15	
Output Voltage	20 to 40V	1V	24	
TruCharge Cable Resistance	10 to 250 mOhm	5 mOhm	40	
TruCharge Cal.	1 to 200		100	
Profile values	-		40	80
Scale I factor	-		75	
Scale V factor	-		157	
Options register	-		-	
I limit reduction	-		30	
Abs I factor	-		43	
Demand clipping	-		160	30
Solo mode	-		1	

3.2. Controller settings Winner S-drive 120A

Winner S-Drive 120 15kmh

Speed Settings	Fast	Slow
Forward Acceleration (0,1 Seconds)	30	35
Forward Deceleration (0,1 Seconds)	15	13
Reverse Acceleration (0,1 Seconds)	35	40
Reverse Deceleration (0,1 Seconds)	20	25
Max Forward Speed (%)	100	100
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	50	40
Min Reverse Speed (%)	50	40
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep timer (minutes)	20
Throttle Invert	No

Battery Settings	
Low battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms	40
Calibration Factor	100
Low Battery Alarm	Off

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non Latching
Inhibit 2: Speed (%)	50
Inhibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

General Settings		
Soft Stop	Off	
Brake Time (milli-seconds)	900	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Freewheel Speed Limit	35	
Freewheel Time Out (0,01 Seconds)	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	

Motor Settings	
Current Limit Max (Amps)	110
Boost Drive Current (Amps)	120
Boost Drive Time (Seconds)	10
Current Foldback Threshold (Amps)	80
Curerent Foldback Time (Seconds)	70
Current Foldback Level (%)	59
Motor Cooling Time (Seconds)	660
Current Foldback Temperature (Deg C)	30
Current Limit Min (Amps)	10
Motor Compensation (milli Ohms)	20
Anti Rollback Level	12
Pull-away Delay (centi-Seconds)	0
Slope Factor	1275
Anti Rollback Velocity	90

Factory Settings	Max	Min
Acceleration (0,1 Seconds)	100	1
Deceleration (0,1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

Throttle Settings		
Throttle Type	1	
Throttle Deadband (%)	15	
Throttle Gain (%)	100	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
Iso Test Resistor	On	

3.3. Controller settings Winner S-drive 140A Schmid MK1 D51313.

Speed Settings	**Fast**	**Slow**
Forward Acceleration (0.1 Seconds)	40	30
Forward Deceleration (0.1 Seconds)	15	12
Reverse Acceleration (0.1 Seconds)	35	40
Reverse Deceleration (0.1 Seconds)	60	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	30	30
Min Reverse Speed (%)	30	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

Factory Settings	**Max**	**Min**
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	Off	
Brake Time (milli-Seconds)	900	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	15	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	1275	**(S Drive Only)**
Anti Rollback Velocity	90	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	180	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	90	**(S Drive II Only)**

Throttle Settings		
Throttle Type	1	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	15	
Throttle Gain (%)	110	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.4. Controller settings Winner S-drive 140A Schmid MK2 D51446.

Speed Settings	**Fast**	**Slow**
Forward Acceleration (0.1 Seconds)	40	30
Forward Deceleration (0.1 Seconds)	15	12
Reverse Acceleration (0.1 Seconds)	35	40
Reverse Deceleration (0.1 Seconds)	60	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	30	30
Min Reverse Speed (%)	15	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

Factory Settings	**Max**	**Min**
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	Off	
Brake Time (milli-Seconds)	900	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	20	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	1275	**(S Drive Only)**
Anti Rollback Velocity	0	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	200	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	85	**(S Drive II Only)**

Throttle Settings		
Throttle Type	1	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	15	
Throttle Gain (%)	110	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.5. Controller settings Winner S-drive 140A Schmid Alpine MK1 D51313.

Speed Settings	**Fast**	**Slow**
Forward Acceleration (0.1 Seconds)	45	30
Forward Deceleration (0.1 Seconds)	15	12
Reverse Acceleration (0.1 Seconds)	35	40
Reverse Deceleration (0.1 Seconds)	60	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	30	30
Min Reverse Speed (%)	20	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

Factory Settings	**Max**	**Min**
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	Off	
Brake Time (milli-Seconds)	900	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	15	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	1275	**(S Drive Only)**
Anti Rollback Velocity	90	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	180	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	90	**(S Drive II Only)**

Throttle Settings		
Throttle Type	1	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	15	
Throttle Gain (%)	110	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.6. Controller settings Winner S-drive 140A Schmid Alpine MK2 D51446.

Speed Settings	**Fast**	**Slow**
Forward Acceleration (0.1 Seconds)	45	30
Forward Deceleration (0.1 Seconds)	15	15
Reverse Acceleration (0.1 Seconds)	25	40
Reverse Deceleration (0.1 Seconds)	25	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	40	30
Min Reverse Speed (%)	20	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

Factory Settings	**Max**	**Min**
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	On	
Brake Time (milli-Seconds)	1500	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	30	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	450	**(S Drive Only)**
Anti Rollback Velocity	0	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	180	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	90	**(S Drive II Only)**

Throttle Settings		
Throttle Type	1	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	15	
Throttle Gain (%)	110	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.7. Controller settings Winner S-drive 140A CT Reduced speed.

Winner S-Drive 140 15kmh CT Reduced Speed

Only for Winners with the following serial numbers:
PW00001 t/m PW00288
NW01950 t/m NW02237
NW1865
NW05106

Speed Settings	**Fast**	**Slow**
Forward Acceleration (0,1 Seconds)	30	35
Forward Deceleration (0,1 Seconds)	15	13
Reverse Acceleration (0,1 Seconds)	35	40
Reverse Deceleration (0,1 Seconds)	60	25
Max Forward Speed (%)	90	90
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	36	36
Min Reverse Speed (%)	20	20
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep timer (minutes)	20
Throttle Invert	No

Battery Settings	
Low battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms	40
Calibration Factor	100
Low Battery Alarm	Off

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non Latching
Inhibit 2: Speed (%)	50
Inhibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

General Settings		
Soft Stop	Off	
Brake Time (milli-seconds)	1000	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Freewheel Speed Limit	35	
Freewheel Time Out (0,01 Seconds)	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	

Motor Settings	
Current Limit Max (Amps)	130
Boost Drive Current (Amps)	140
Boost Drive Time (Seconds)	10
Current Foldback Threshold (Amps)	80
Curerent Foldback Time (Seconds)	70
Current Foldback Level (%)	59
Motor Cooling Time (Seconds)	660
Current Foldback Temperature (Deg C)	30
Current Limit Min (Amps)	10
Motor Compensation (milli Ohms)	20
Anti Rollback Level	12
Pull-away Delay (centi-Seconds)	0
Slope Factor	950
Anti Rollback Velocity	0

Factory Settings	**Max**	**Min**
Acceleration (0,1 Seconds)	100	1
Deceleration (0,1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	40	0

Throttle Settings		
Throttle Type	1	
Throttle Deadband (%)	15	
Throttle Gain (%)	100	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
Iso Test Resistor	On	

3.8. Controller settings Winner S-drive 140A CT MK1 D51313.

Speed Settings	Fast	Slow
Forward Acceleration (0.1 Seconds)	30	30
Forward Deceleration (0.1 Seconds)	15	12
Reverse Acceleration (0.1 Seconds)	35	40
Reverse Deceleration (0.1 Seconds)	60	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	40	30
Min Reverse Speed (%)	20	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

Factory Settings	Max	Min
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	Off	
Brake Time (milli-Seconds)	1000	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	15	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	950	**(S Drive Only)**
Anti Rollback Velocity	0	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	180	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	90	**(S Drive II Only)**

Throttle Settings		
Throttle Type	0	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	30	
Throttle Gain (%)	100	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.9. Controller settings Winner S-drive 140A CT MK2 D51446.

Speed Settings	Fast	Slow
Forward Acceleration (0.1 Seconds)	30	30
Forward Deceleration (0.1 Seconds)	15	15
Reverse Acceleration (0.1 Seconds)	35	40
Reverse Deceleration (0.1 Seconds)	25	15
Max Forward Speed (%)	100	50
Min Forward Speed (%)	30	30
Max Reverse Speed (%)	40	30
Min Reverse Speed (%)	20	30
Speed Limit Pot Enabled	Off	

Operation Settings	
Sleep Timer (Minutes)	20
Throttle Invert	No

Battery Settings	
Low Battery Flash Level (Bars)	2
Cable Resistance (milli-Ohms)	40
Calibration Factor	100
Low Battery Alarm	Off
Trucharge Reset Voltage (Deci-Volts) **(S Drive 180A) (S Drive II)**	250
Battery Curve Scaler **(S Drive II Only)**	0

Inhibit Settings	
Inhibit 1: Mode	1
Inhibit 1: Operation	Latching
Inhibit 1: Speed (%)	0
Inhibit 2: Mode	1
Inhibit 2: Operation	Non-Latching
Inhibit 2 Speed (%)	50
Inihibit 3: Mode	1
Inhibit 3: Operation	Latching
Inhibit 3: Speed (%)	0
Aux Output: Mode	0

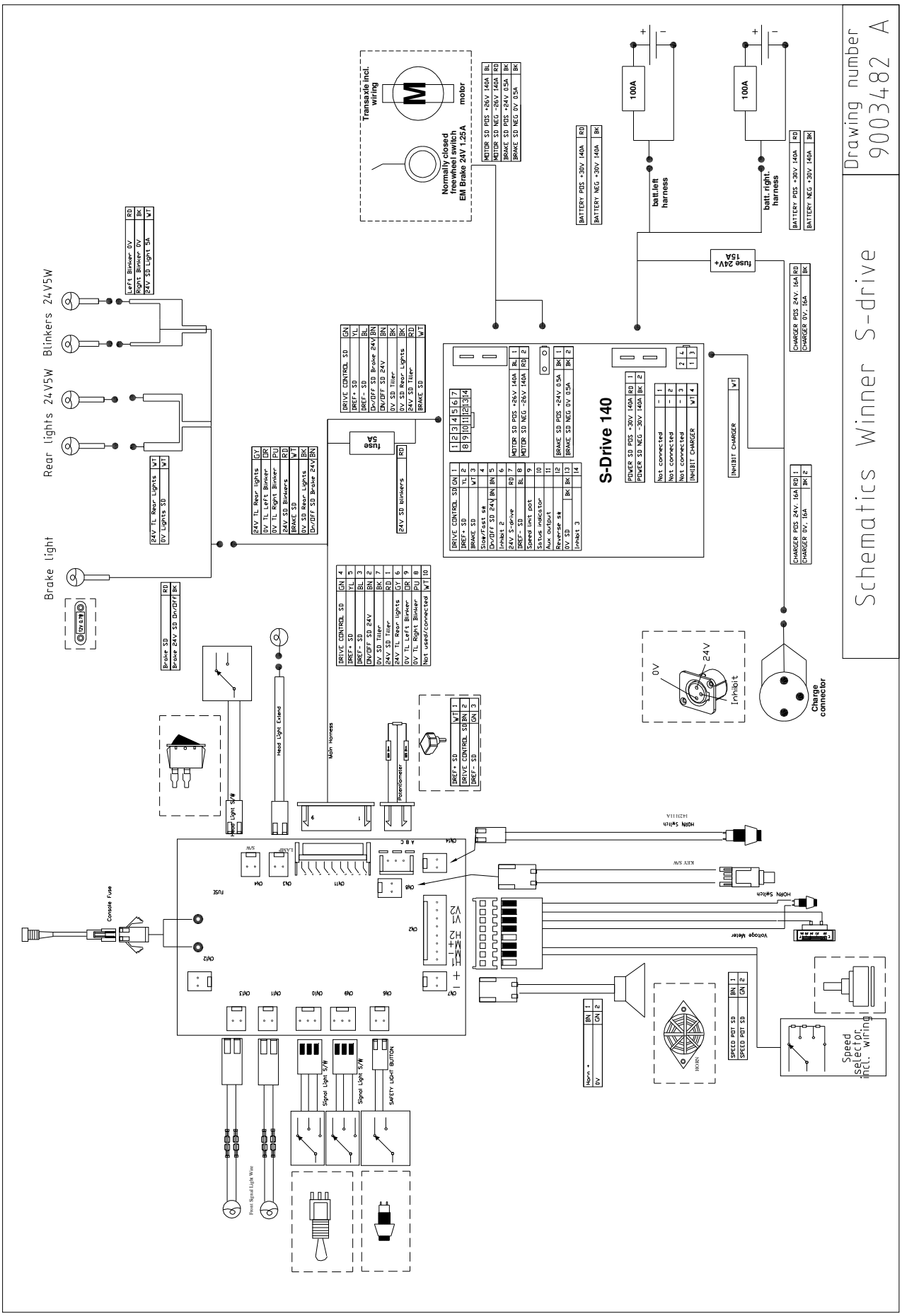
Factory Settings	Max	Min
Acceleration (0.1 Seconds)	100	1
Deceleration (0.1 Seconds)	100	1
Forward Speed (%)	100	0
Reverse Speed (%)	100	0

General Settings		
Soft Stop	On	
Brake Time (milli-Seconds)	1500	
Output Voltage (Volts)	24	
Status Output Type	2	(0 = Trucharge, 1 = LED, 2 = Analogue)
Diagnostic Flash Sequence	0	
Reverse Alarm	Off	
Pulsed Reverse Alarm	Off	
Diagnostic Alarm	Off	
Brake Disconnected Alarm	Off	
Brake Fault Detect	On	
Brake Light	On	
Push too Fast Threshold	35	
Push too Fast Timeout	20	
Freewheel Enable	Disable	
Inhibit 2 Horn Input Enable	Off	**(S Drive 120,140,180A) (S Drive II)**

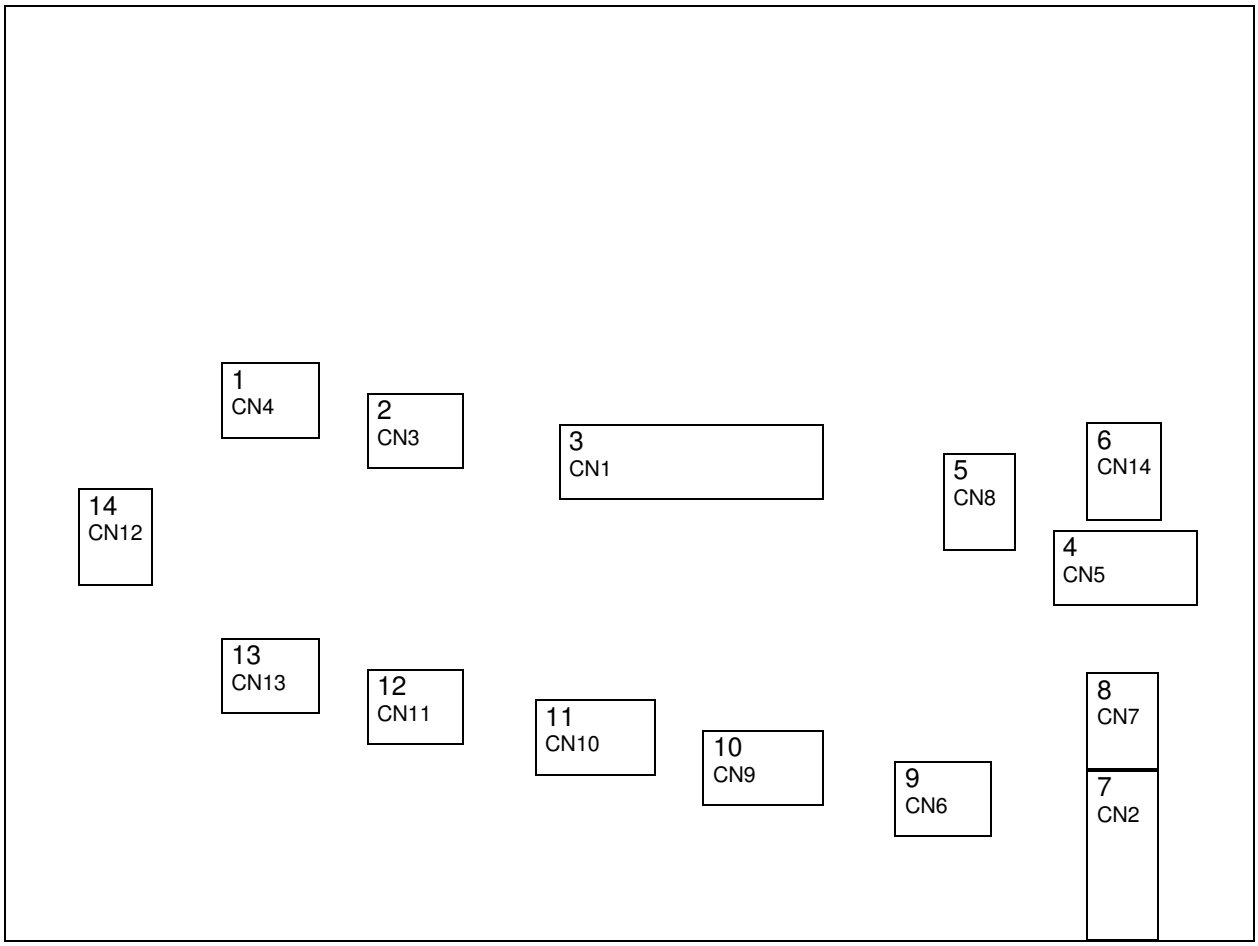
Motor Settings		
Current Limit Max (Amps)	130	
Boost Drive Current (Amps)	140	
Boost Drive Time (Seconds)	10	
Current Foldback Threshold (Amps)	80	
Current Foldback Time (Seconds)	70	
Current Foldback Level (%)	59	
Motor Cooling Time (Seconds)	660	
Current Foldback Temperature (Deg C)	30	
Current Limit Min (Amps)	10	
Motor Stall Timeout (Seconds)	0	**(S Drive II Only)**
Motor Compensation (milli-Ohms)	25	
AntiRollback Level	12	**(S Drive Only)**
Pull-away Delay (centi-Seconds)	0	**(S Drive Only)**
Slope Factor	950	**(S Drive Only)**
Anti Rollback Velocity	0	**(S Drive Only)**
Braking Current Limit (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Braking Current (Amps)	140	**(S Drive 180A) (S Drive II)**
Timed Foldback Speed (%)	100	**(S Drive 180A) (S Drive II)**
Enhanced Motor Compensation (Up) (%)	180	**(S Drive II Only)**
Enhanced Motor Compensation (Down) (%)	170	**(S Drive II Only)**
Enhanced Motor Compensation (Up) Gain	100	**(S Drive II Only)**

Throttle Settings		
Throttle Type	1	(0 = Single-ended, 1 = Wig-wag, 2 = Unipolar)
Throttle Deadband (%)	15	
Throttle Gain (%)	110	
Throttle Operated at Power-up	2	(0 = Drive, 1 = Inhibit, 2 = Trip)
Throttle Reference Test	On	
ISO Test Resistor	On	
Timed Throttle Invert **(S Drive II Only)**	0	(0 = Off, 1 = Inhibit 2, 2 = Inhibit 3)

3.10. Electrical Diagram S-Drive



3.11. Connections printed circuit board



The PCB connections are stated in the table below.

Number	Connection Number	Function
1	CN4	Lighting switch
2	CN3	Head light
3	CN1	Main harness
4	CN5	Throttle
5	CN8	Key Switch
6	CN14	Horn switch left
7	CN2	Speed potentiometer/ Horn switch right / Battery indicator
8	CN7	Horn
9	CN6	Hazard light switch
10	CN9	Indicator switch right
11	CN10	Indicator switch left
12	CN11	Indicator right
13	CN13	Indicator left
14	CN12	Not used

4. Technical specifications

XXXXXX-010900000-nl.doc

4.1. Product specifications

Manufacturer	Handicare Nederland b.v.

4.1.1. Winner

Model	**3 Wheel**	**4 Wheel**
Maximum user's weight	159 kg	159 kg

Description	**3 Wheel**	**4 Wheel**
Total length	1410 mm	1410 mm
Total width	673 mm	673 mm
Minimal height (without chair and tiller folded downwards)	1000 mm	1000 mm
Total weight incl. batteries	153 kg (80Ah)	158 kg (80Ah)
Weight of heaviest part	n.v.t.	n.v.t.
Static stability downward	15°	15°
Static stability upward	15°	15°
Static stability sideways	15°	15°
Energy consumption: theoretic maximum distance	60 km (80Ah)	60 km (80Ah)
Dynamic stability on slopes	11°	11°
Climbing capacity for obstacles	100 mm	100 mm
Maximal speed forward	15 km/u	15 km/u
Minimum brake distance from maximum speed	2°	2°
Seat angle	430 mm	430 mm
Effective seating depth	500 mm	500 mm
Effective seating width	455 mm-520 mm	455 mm-520 mm
Sitting height from the front (adjustable in steps of 25 mm (0.8"))	85°-180°	85°-180°
Back angle	550 mm	550 mm
Back height	250 mm	250 mm
Armrest height		

Omschrijving	**3 Wheel**	**4 Wheel**
Front armrest to backrest	260 mm	260 mm
Minimum radius	1400 mm	1905 mm
Capacity to drive over obstacles	100 mm	100 mm
Ground clearance	114 mm	114 mm
Turning space	< 2000 mm	< 2000 mm

Test data	**3 Wheel**	**4 Wheel**
Weight test dummy	159 kg	

Operating force	**3 Wheel**	**4 Wheel**
Operating-handle power	< 60 N	< 60 N
Resetting automatic fuse	< 60 N	< 60 N
Electronic switches	< 15 N	< 15 N
Parking brake	< 60 N	< 60 N
Inserting charging plug	< 60 N	< 60 N

Technical data	**3 Wheel**	**4 Wheel**
Diameter front wheel	310 x 108 mm	292 x 108 mm
Diameter rear wheels	310 x 108 mm	310 x 108 mm
Tire pressure wheels	270 kPa (2,7 Bar)	270 kPa (2,7 Bar)

Batteries	3 Wheel	4 Wheel
Maximum dimensions batteries	324 x 175 x 213 mm	324 x 175 x 213 mm
Weight scooter without batteries	93 kg	98 kg
Battery capacity	80 Ah/20h	80 Ah/20h
Maximum permissible charging voltage	13,6 V	13,6 V
Maximum charging current	7 A	7 A
Connector type	A DIN 72311	A DIN 72311

4.2. Approval

The product meets the following standards:

1. NEN-EN 12182 Technical tools for the handicapped - General standards and testing methods October 1997.
2. NEN-EN 12184 Electrically driven wheelchairs, scooters and associated charging equipment - Standards and testing methods April 1999.
3. The Winner 3-wheel scooter is classified according to EN12184 (1999) in class C.
4. ISO 7176-8 Requirements and test methods for impact, static, and fatigue strength July 1998.
5. ISO 7176-9 climate tests for electric wheelchairs and scooters.
6. ISO 7176-14 Standards and test methods for controller systems of electrically driven wheelchairs 1997.
7. ISO 7176-16 Requirements of resistance to fire, May 1997.

4.3. Service information transaxles.

Part	***Service-check for:***	
	Winner with Schmid transaxle	***Winner with CT transaxle***
Carbon brushes	***Once a year or every 3000 Km***	***Once a year or every 3000 Km***
Length off carbon brush	***16mm new / 8mm end length***	***18mm new / 8mm end length***

5. Use of the parts lists

This document is meant as a reference book to be able to order parts for the scooter as shown on the front.

How to order:
To order parts please specify:
- Serial number (see the identification plate).
- Group (to which the relevant part belongs).
- Article number.
- Number of parts required.
- Description (in the relevant language).
- Dimensions (if applicable).

Remark:
- If a part does not have a position number, it means that the relevant part cannot be bought separately. The relevant part is part of the composition that is shown. Only the composition can be ordered, so it must be replaced in its entirety.
- Boxed position numbers refer to the relevant drawing.

Order address:
Please send orders by post or fax to your supplier.

Service technicians:
Repairs may only be done by trained and authorized service technicians.
In the execution of their work they are at all times fully responsible for the fulfilment of locally applicable safety guidelines and standards.
Temporary employees and persons in training may only execute repair and replacement work under the supervision of an authorized service technician.

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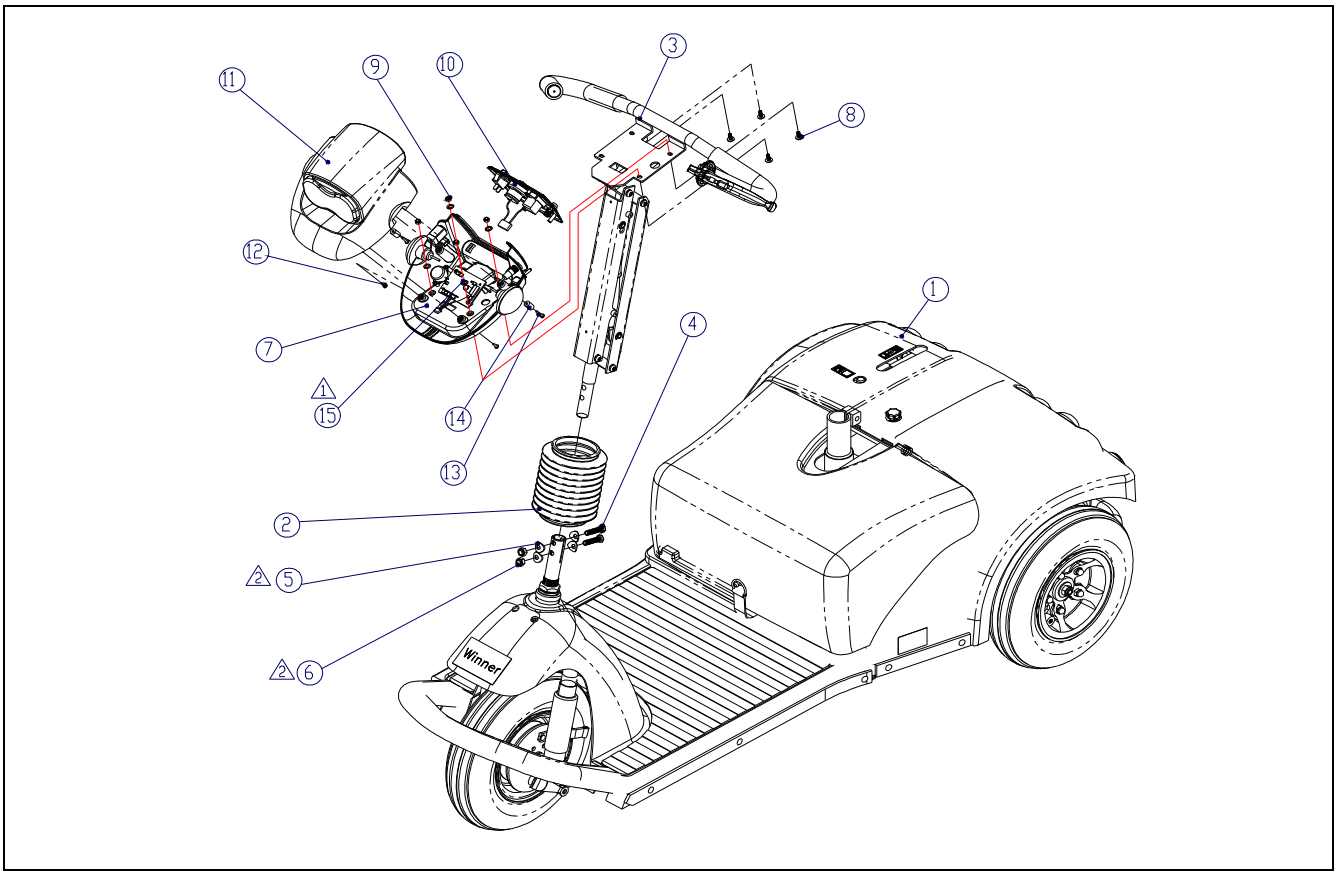
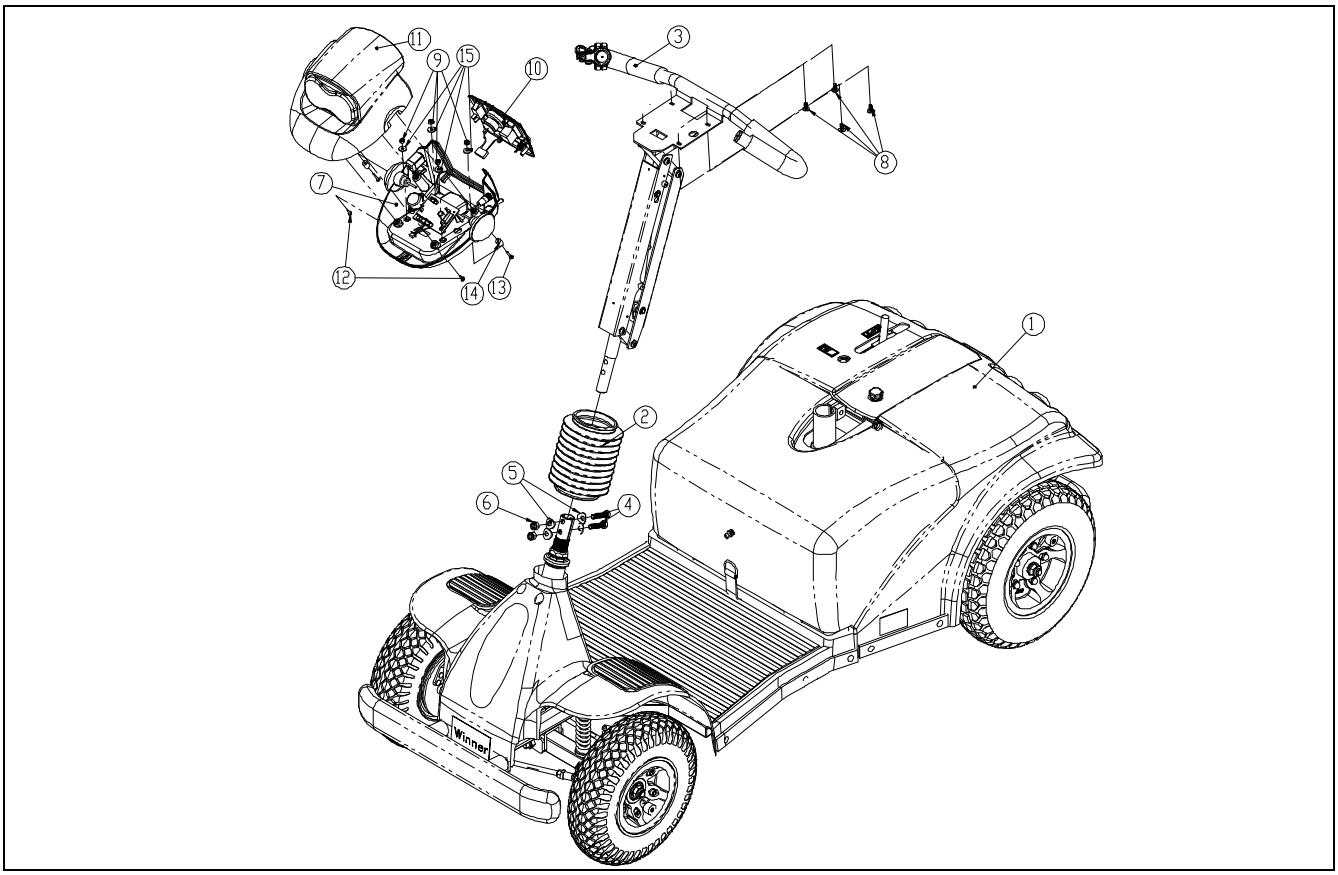
001: SCOOTER ASSY (3W)



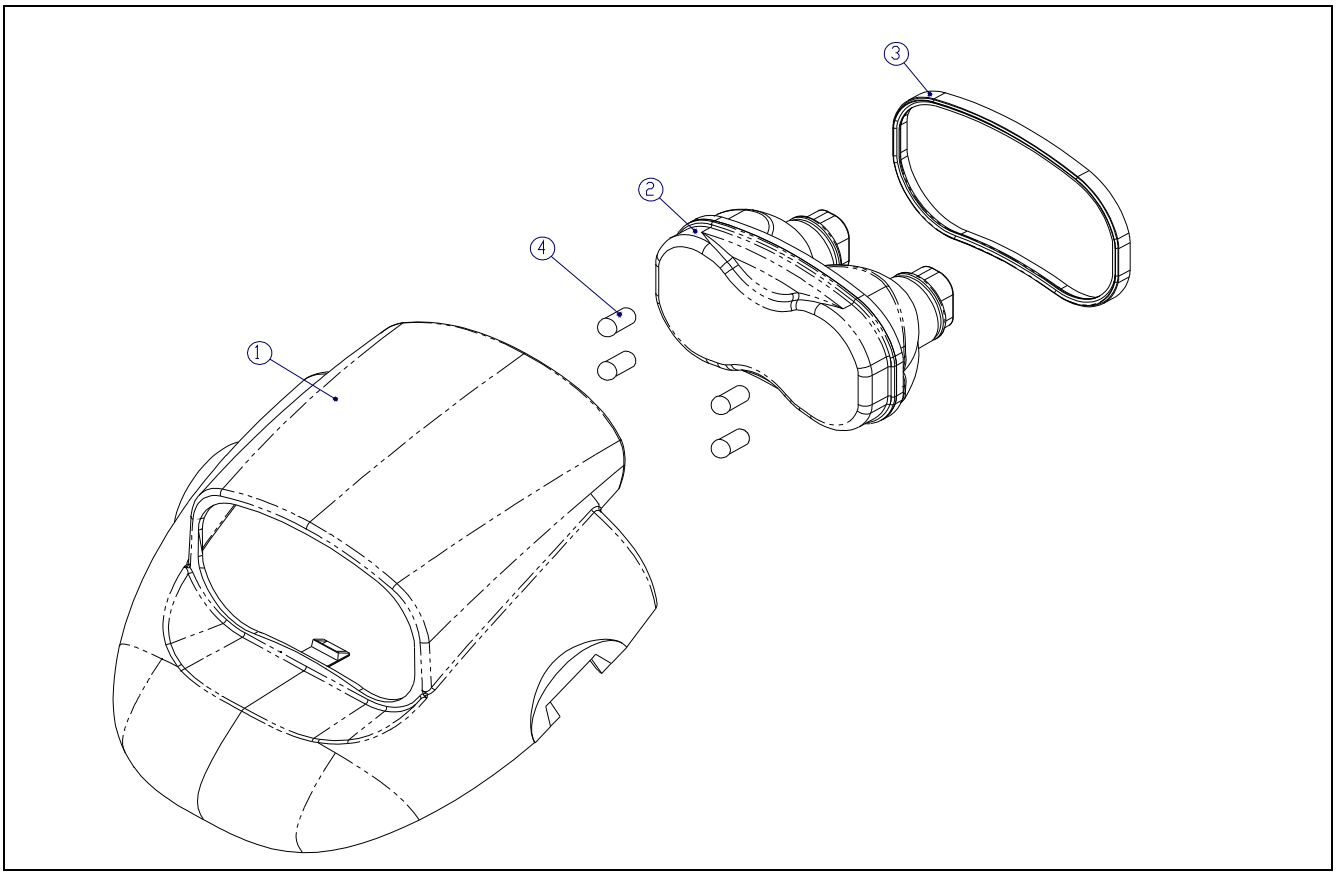
Pos	Article number	Units	Description	
1	-	1	3W Scooter assy	
2	20456.0682	1	Rubber bellow	
3	9003154	1	Tiller parallel assy	
4	-	2	Screw M8xP1.25x35L	
5	-	4	Arc Washer	
6	00000.1702	2	Lock nut M8	
7	161.00151.000	1	Console bottom cover assy	
8	00000.3200	4	Screw M5xP0.8x12L	
9	00000.1700	4	Lock nut M5xP0.8	
10	161.00161.000	1	Console panel cover assy (Solo)	
	1009683	1	Console panel cover assy (S-Drive)	
11	161.00171.000	1	Console top cover assy	
12	-	2	Screw 2,9x16mm	
13	-	2	Screw 2,9x25mm	
14	161.00181.000	2	Block (Bush 12mm)	
15	00000.2101	4	Flat washer M5	

002: SCOOTER ASSY (4W)



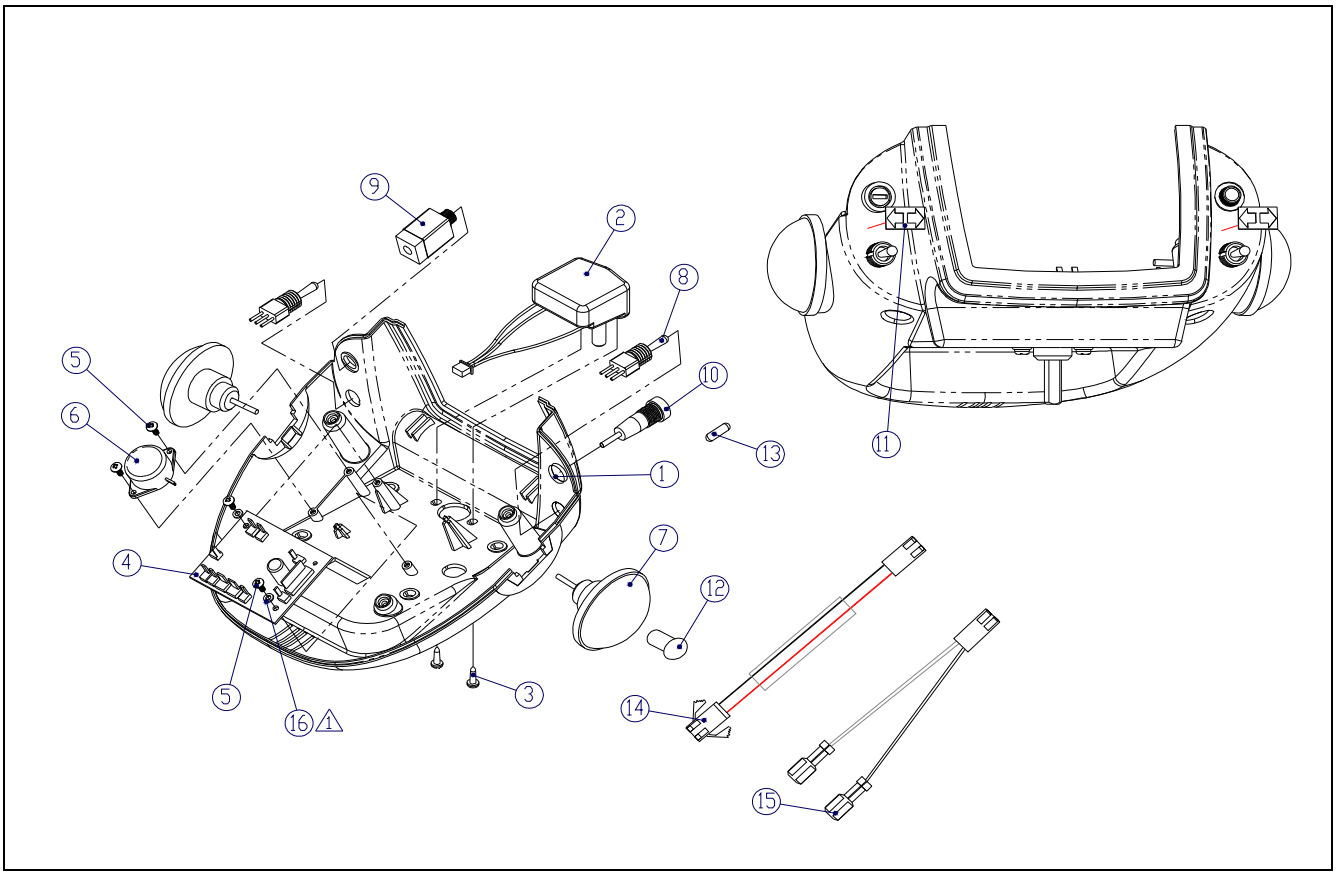
Pos	Article number	Units	Description	
1	-	1	4W Scooter assy	
2	20456.0682	1	Rubber bellow	
3	9003154	1	Tiller parallel assy	
4	-	2	Screw M8xP1.25x35L	
5	-	4	Arc Washer	
6	00000.1702	2	Lock nut M8	
7	161.00151.000	1	Console bottom cover assy	
8	00000.3200	4	Screw M5xP0.8x12L	
9	00000.1700	4	Lock nut M5xP0.8	
10	161.00161.000	1	Console panel cover assy (Solo)	
	1009683	1	Console panel cover assy (S-Drive)	
11	161.00171.000	1	Console top cover assy	
12	-	2	Screw 2,9x16mm	
13	-	2	Screw 2,9x25mm	
14	161.00181.000	2	Block (Bush 12mm)	
15	00000.2101	4	Flat washer M5	

003: CONSOLE TOP COVER ASSY



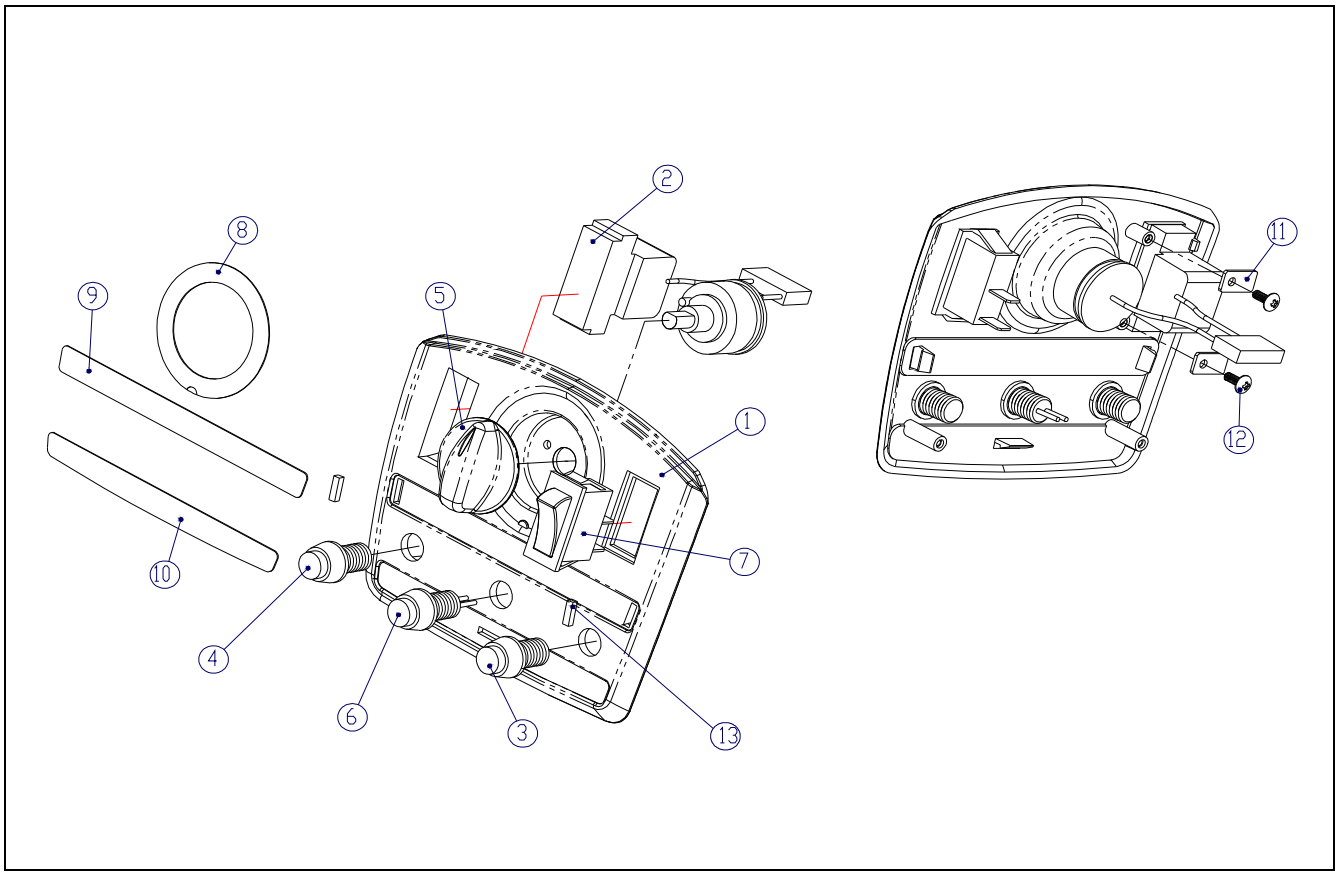
Pos	Article number	Units	Description	
1	1001334	1	Console top cover	
2	1001335	1	Head light assy	
3	1001336	1	Head light seal	
4	264.00121.000	4	Head light DC24 3W	
-	161.00171.000	1	Console top cover assy	

004: CONSOLE BOTTOM COVER



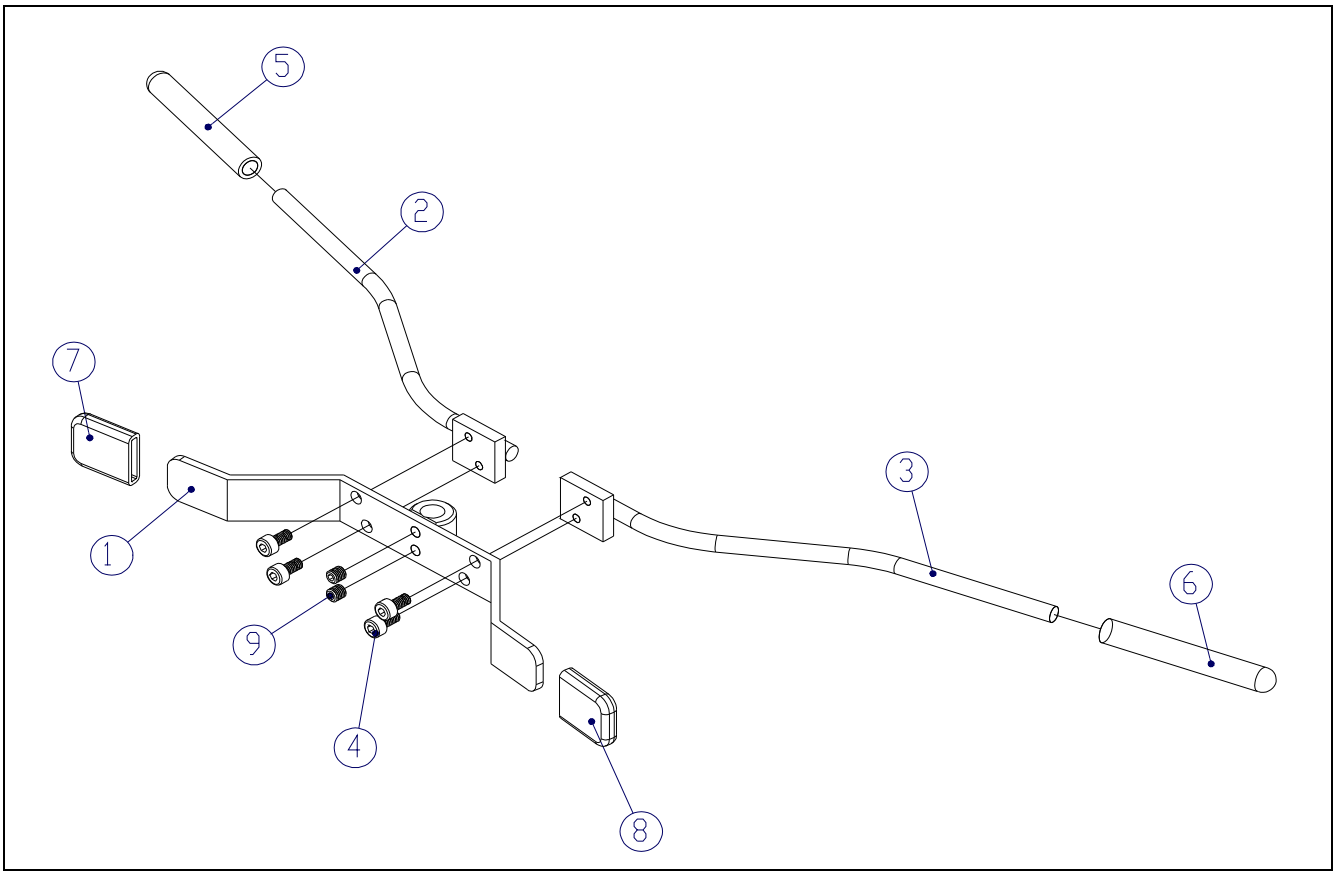
Pos	Article number	Units	Description	
1	1001321	1	Console bottom cover	
2	9003156	1	Potentionmeter cable assy	
3	1001323	2	Screw 4,2x12mm	
4	1001208	1	PCB tiller	
5	1001324	4	Screw 2,9x8mm	
6	1001325	1	Horn	
7	1001326	2	Front indicator assy	
8	1001327	2	Toggle switch wire assy	
9	1001328	1	Key switch wire assy	
10	1001329	1	Console fuse wire assy	
11	008.00000.481	2	Label "indicator arrows"	
12	1001281	2	Bulb DC24V 5W T9.5	
13	1001331	1	Fuse 2A glass	
14	1001332	1	Head light extend wire assy	
15	1001333	2	Console indicator assy	
16	-	2	Plastic washer	
-	161.00151.000	1	Console bottom cover assy	
-	1001372	1	Contact key	

005: CONSOLE PANEL ASSY



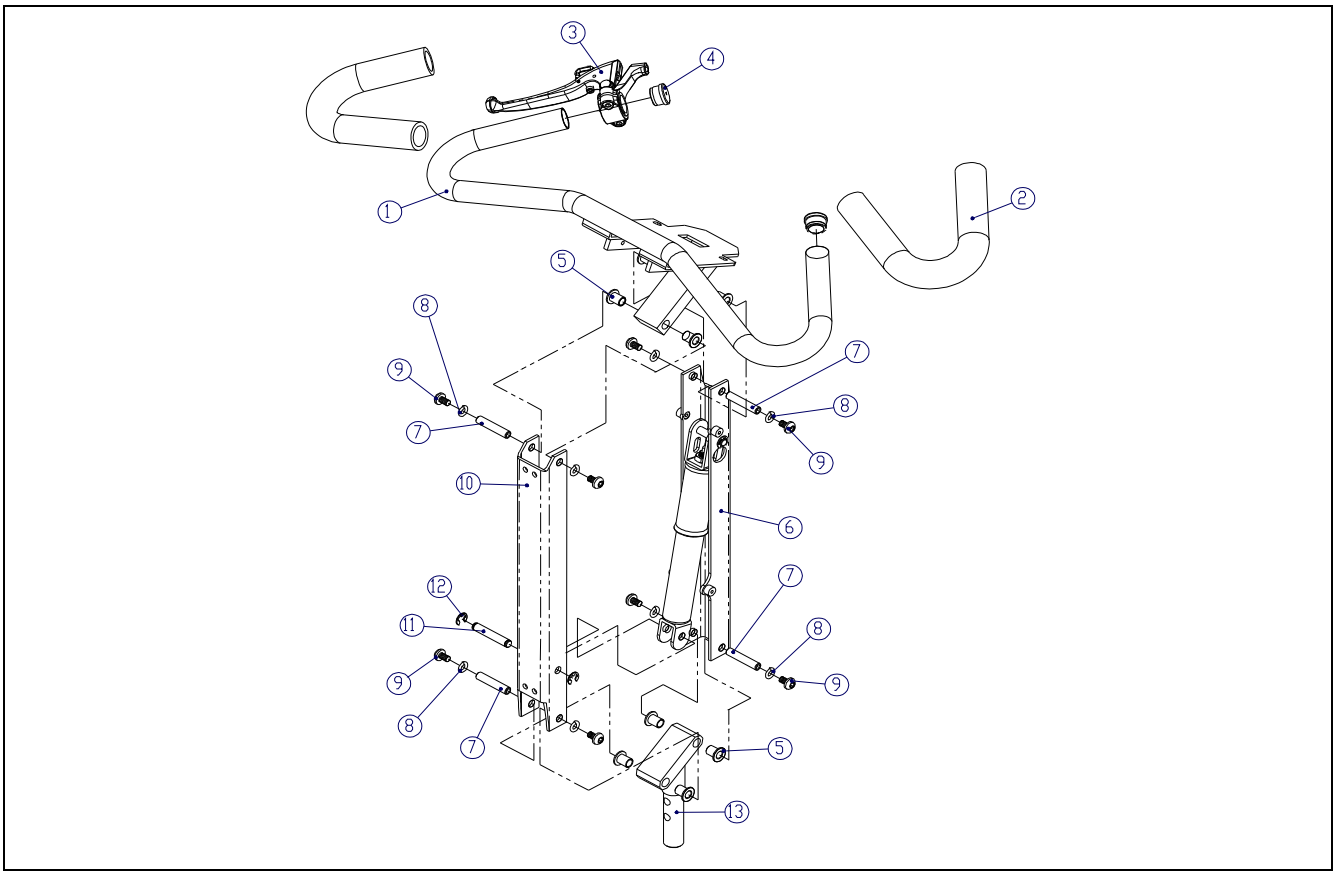
Pos	Article number	Units	Description	
1	1001337	1	Console panel cover	
2	1001338	1	Battery indicator + speedswitch (Solo)	
	9003087	1	Battery indicator + speedswitch (S-Drive)	
3	1001340	1	Horn switch cable assy	
4	1001340	1	Horn switch cable assy	
5	1001341	1	Speed knob	
6	1001342	1	Warning light control assy	
7	1001343	1	Head light switch cable assy	
8	008.00000.601	1	Label Speed selector	
9	008.00000.611	1	Label console upper	
10	008.00000.621	1	Label console lower	
11	1001344	2	Battery meter bracket	
12	1001345	2	Screw M2,9x8mm	
13	1001346	2	Stuff inserts the panel	
-	161.00161.000	1	Console panel assy (Solo)	
-	1009683	1	Console panel assy (S-Drive)	

006: WIG-WAG ASSY



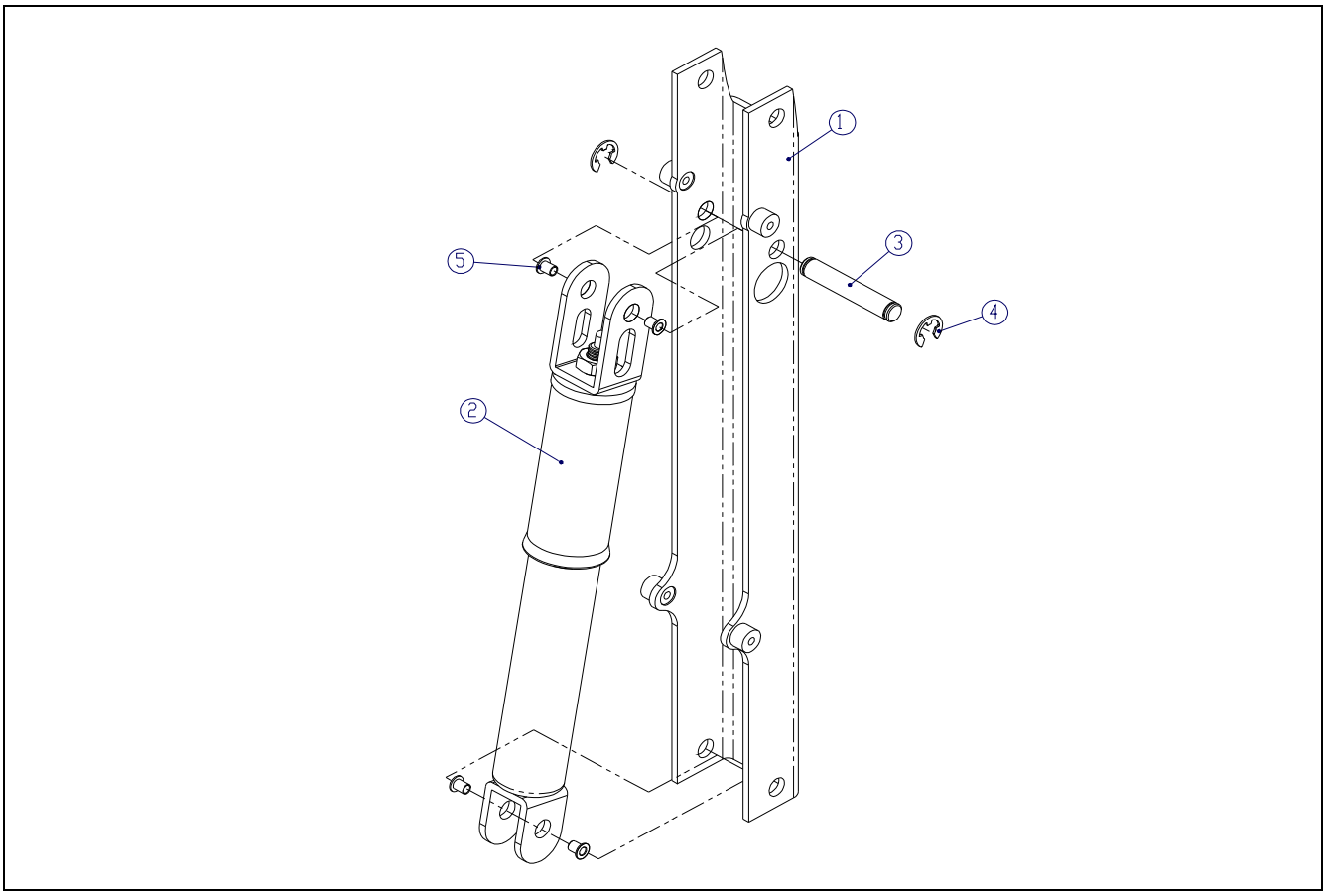
Pos	Article number	Units	Description	
1	-	1	Wig-wag	
2	-	1	Finger control (LH)	
3	-	1	Finger control (RH)	
4	-	2	Screw M4xP0.7x8L black	
5	1001355	1	Plastic tip finger (LH) (Green)	
6	1001356	1	Plastic tip finger (RH) (Yellow)	
7	9003092	1	Plastic tip thumb (LH) (Yellow)	
8	9003093	1	Plastic tip thumb (RH) (Green)	
9	00000.3503	2	Set screw M5xP0.8x5L	
-	9003155	1	Wig-Wag assy	

007: TILLER ASSY



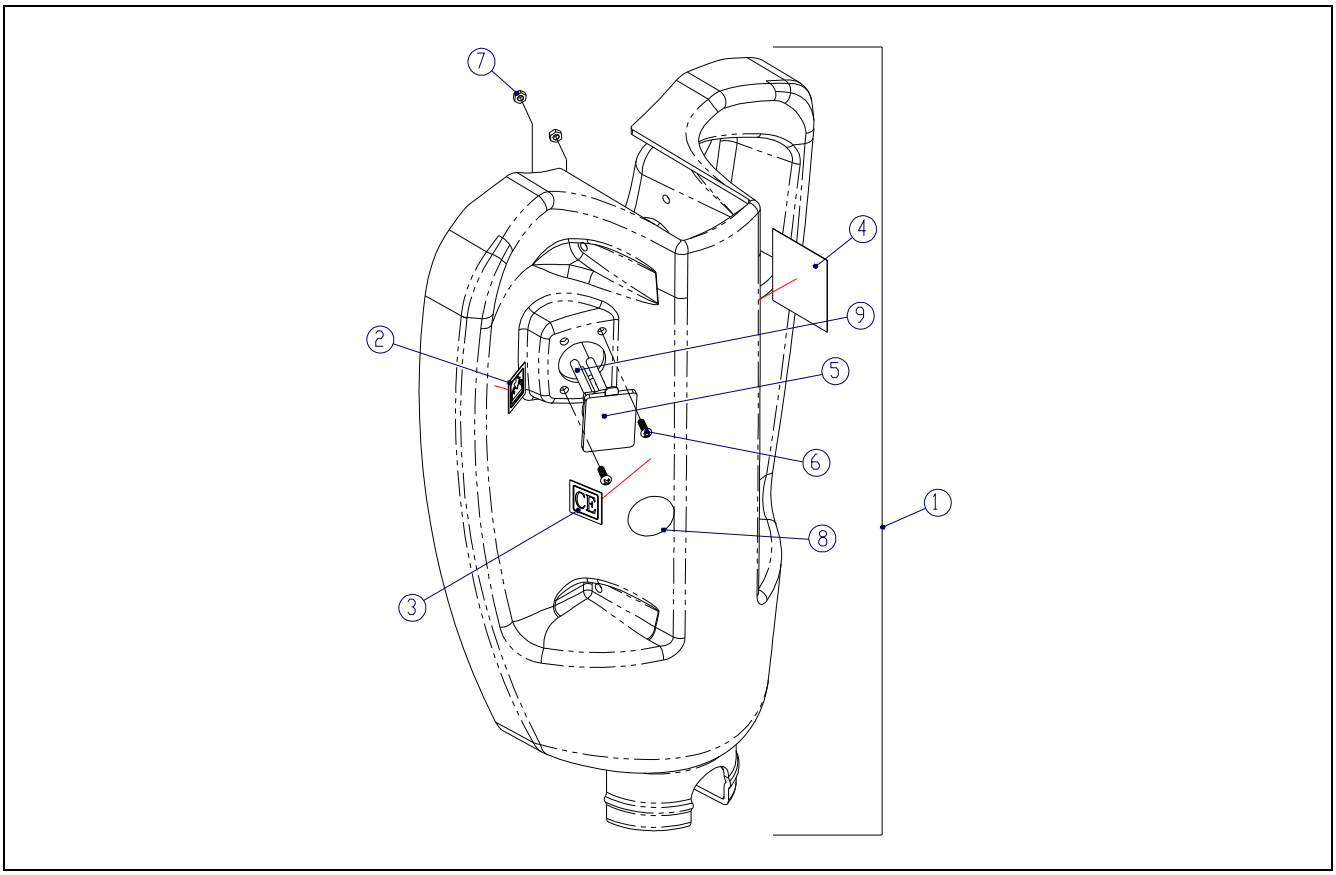
Pos	Article number	Units	Description	
1	9003091	1	Handle	
2	125.00031.000	2	Hand grip (foam)	
3	108.00281.000	1	Brake handle	
4	00000.9002	2	Plug for hand grip 22x2	
5	1001313	8	Pivot bush	
6	1001308	1	Channel front assy	
7	1001315	4	Pivot pin	
8	1001316	8	Spring washer black	
9	1001317	8	Screw M6xP1.0x10L black	
10	1001318	1	Channel back	
11	1001311	1	Pivot pin	
12	00000.1402	2	Clip E7	
13	1001320	1	Bottom mounting block of tiller	
-	9003154	1	Tiller assy	
-	108.00291.000	1	Brake cable 3W	
-	1009813	1	Brake cable 4W	

008: CHANNEL FRONT ASSY



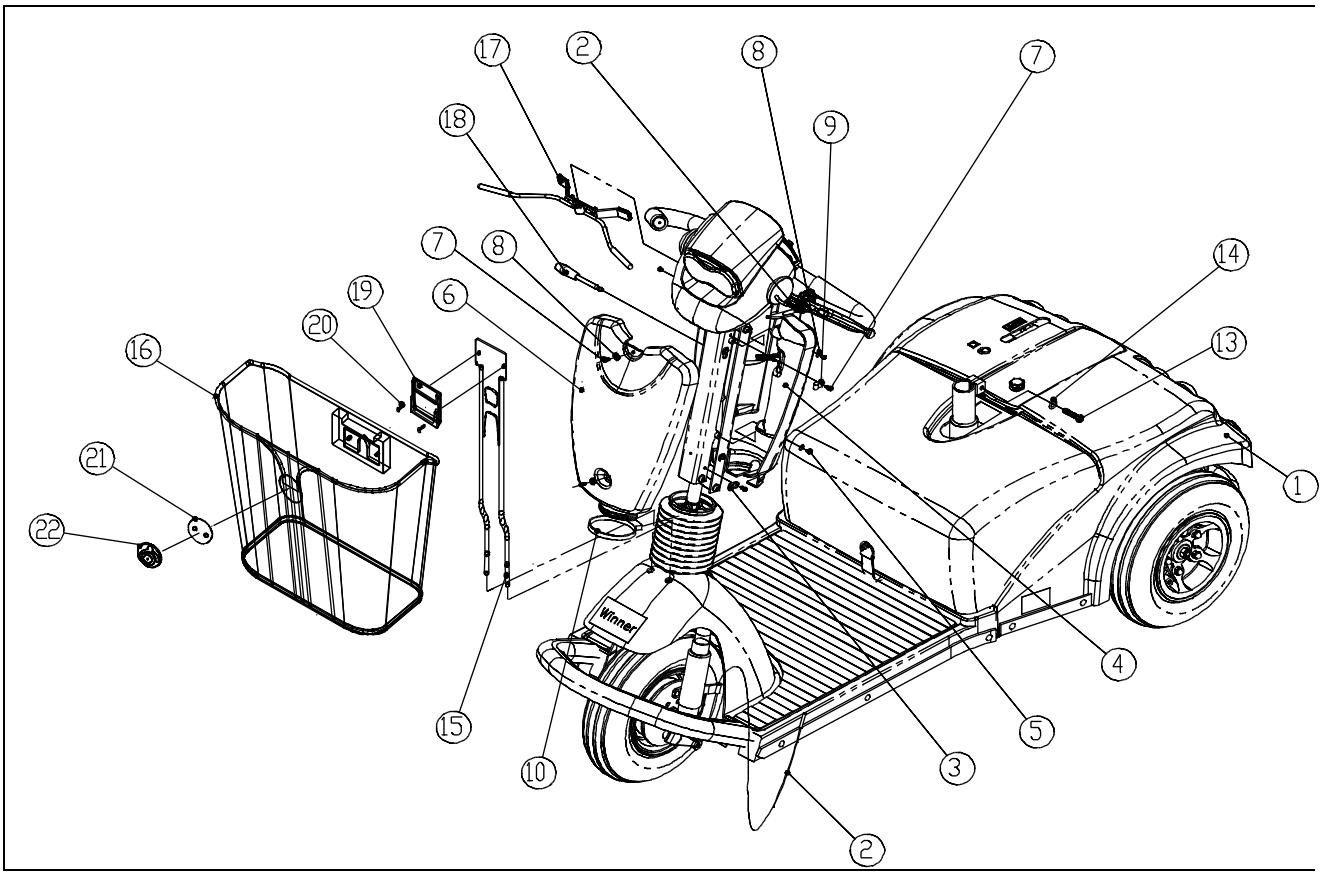
Pos	Article number	Units	Description	
1	1001309	1	Channel front	
2	1001310	1	Gas spring	
3	1001311	1	Pivot pin	
4	00000.1402	2	Clip E7	
5	1001312	4	Bush	

009: BACK TILLER SHROUD ASSY



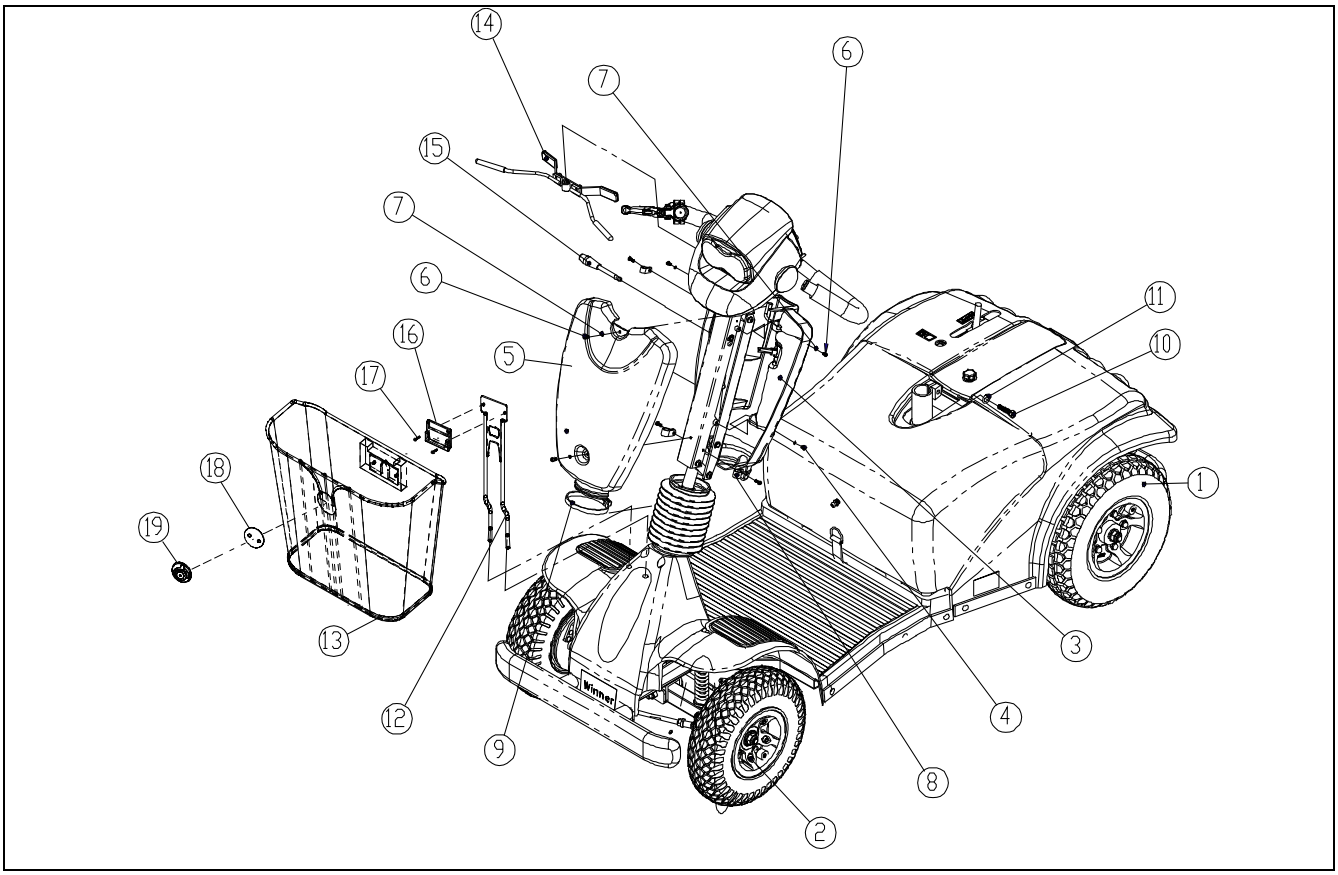
Pos	Article number	Units	Description	
1	1011153	1	Back tiller shroud assy (Solo)	
	1009684	1	Back tiller shroud assy (S-Drive)	
2	008.00000.391	1	Label "charger"	
3	00001.1347	1	Label "CE"	
4	008.00000.371	1	Label "tiller adjust"	
5	1001361	1	Charger plug cable assy (Solo)	
	9003485	1	Charger plug cable assy (S-Drive) (15A)	
-	9003484	1	Charger plug cover	
6	-	2	Screw M3xP0.5x10L	
7	00000.1506	2	Nut M3xP0.5	
8	-	1	Label "charger set"	

010: SCOOTER ASSY (3W)



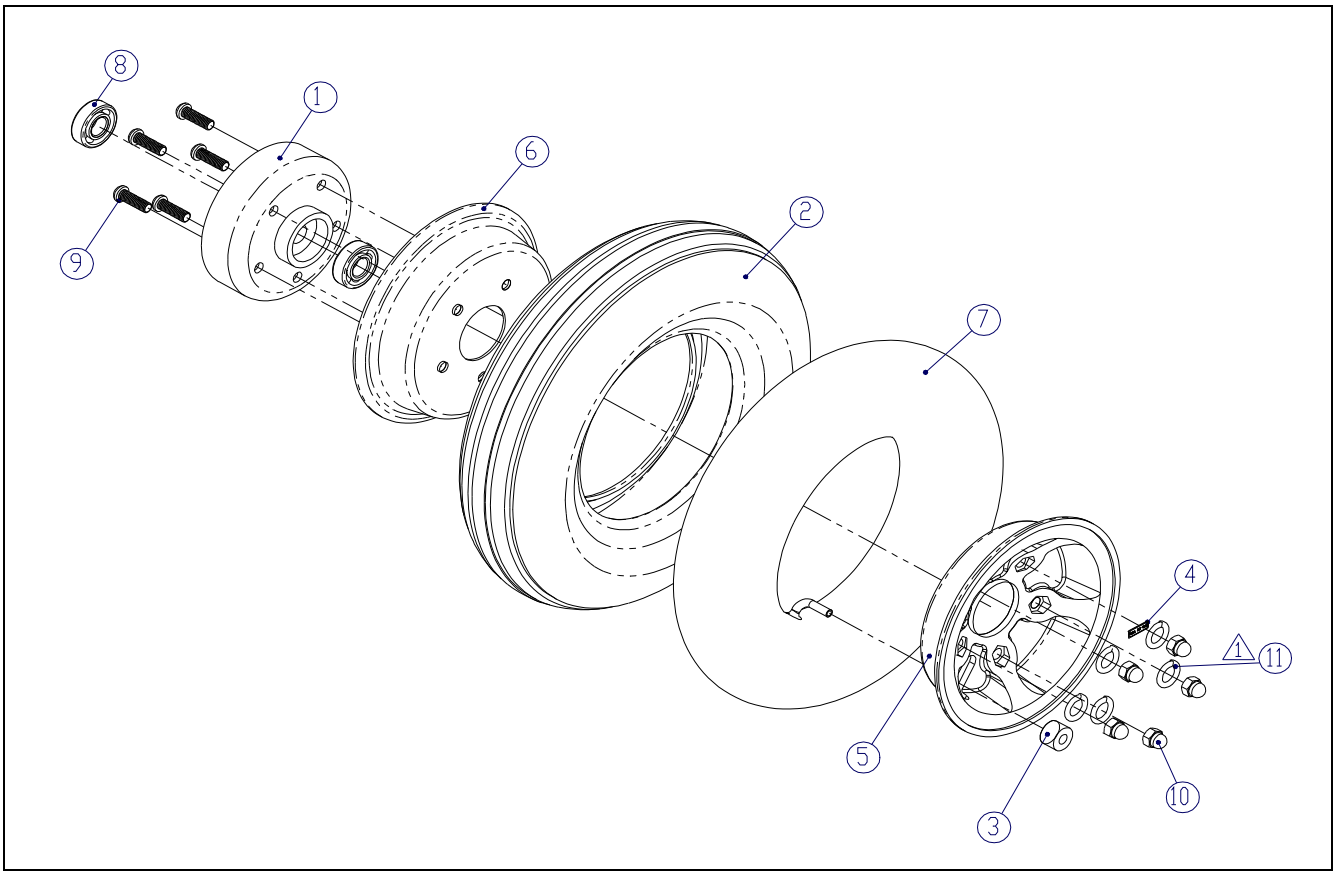
Pos	Article number	Units	Description
1	-	1	3W Scooter pro assy
2	108.00291.000	1	Brake cable assy
3	-	1	P-clip ACC-4
4	1011153	1	Back tiller shroud assy (Solo)
	1009684	1	Back tiller shroud assy (S-Drive)
5	1001365	4	Screw M4xP0.7x6L black
6	052.00342.000	1	Front cover of tiller
7	1001366	6	Screw M4xP0.7x10L black
8	1001367	6	Flat washer W4 black
9	1254	3	P-clip ACC-3
10	1001368	1	Hose clamp
13	-	1	Screw M8xP1.25x35L
14	00000.2203	1	Spring washer M8
15	9000812	1	Basket holder
15,16,19-22	265.00081.000	1	Front basket assy
16	9001135	1	Basket
17	9003155	1	Wig-wag assy
18	1001370	1	Tiller lever
19	9000704	1	Basket lock
20	00000.3612	2	Bolt M4*10
21	9000872	1	Tape
22	9002232	1	Handicare logo

011: SCOOTER ASSY (4W)



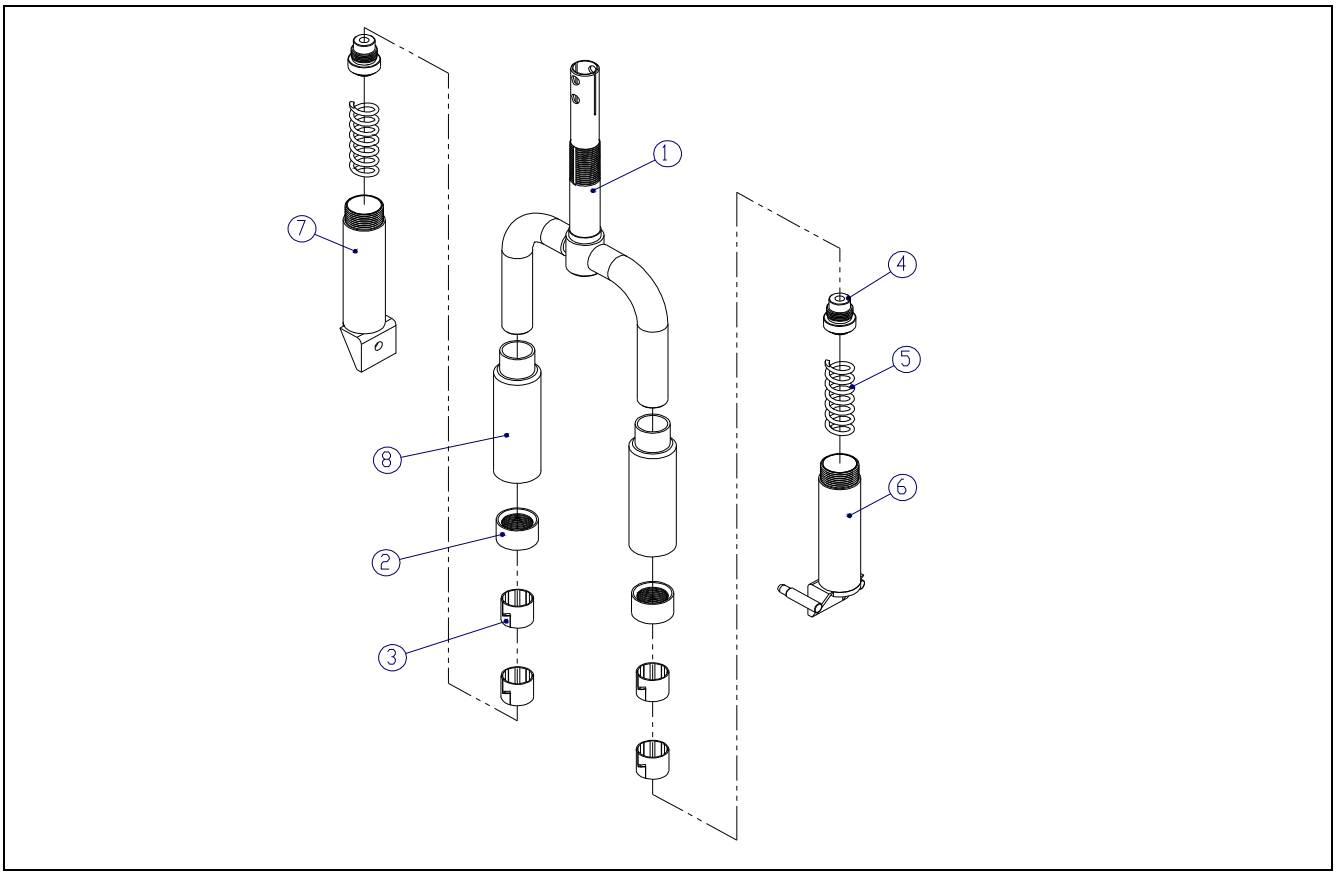
Pos	Article number	Units	Description	
1	170.00352.000	1	Rear wheel assy	
2	1004591	1	Front wheel assy	
3	1011153	1	Back tiller shroud assy (Solo)	
	1009684	1	Back tiller shroud assy (S-Drive)	
4	1001365	4	Screw M4*P0.7*6mm	
5	052.00342.000	1	Tiller cover assy front	
6	1001366	6	Screw M4*P.07*10mm	
7	1001367	6	Washer Ø3*Ø6*0.5t	
8	1254	4	P-clip	
9	1001368	1	Hose clamp	
10	-	1	Bolt M8*P1.25*35mm	
11	00000.2203	1	Spring washer M8	
12	9000812	1	Basket holder	
13	9001135	1	Basket	
14	9003155	1	Wig-wag assy	
15	1001370	1	Tiller lever	
16	9000704	1	Basket lock	
17	00000.3612	2	Bolt M4x10	
18	9000872	1	Tape	
19	9002232	1	Handicare logo	
-	1009813	1	Brake cable assy 4W	

012: FRONT TIRE ASSY (3W)



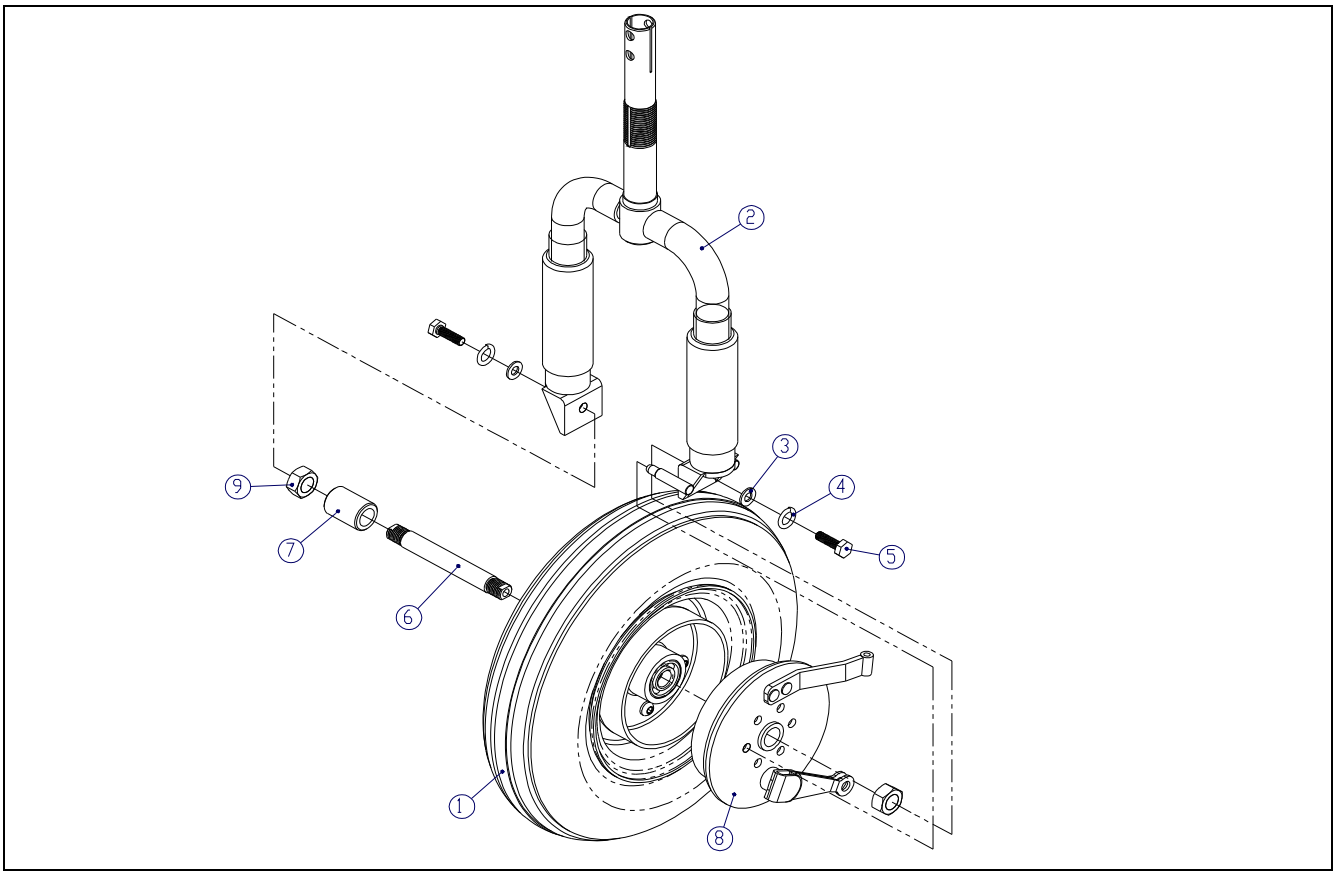
Pos	Article number	Units	Description	
1	176.00182.000	1	Brake hub	
2	172.00062.000	1	Outer tire 4.10x3.50x6"	
3	176.00191.000	1	Spacer Bush	
4	00001.1462	1	Label max 2.7 bar	
5	173.00052.000	1	Outer Rim 6"	
6	173.00042.000	1	Inner Rim 6"	
7	171.00021.000	1	Tube Inner with Cap	
8	015.07030.001	2	Bearing 6202/2RS	
9	00000.3706	5	Screw M8xP1.25x25L	
10	00000.1802	5	Nut M8xP1.25	
11	00000.2203	5	Spring washer SW8	
-	170.00342.000	1	Front tyre assy (3W)	

013: FRONT FORK (3W)



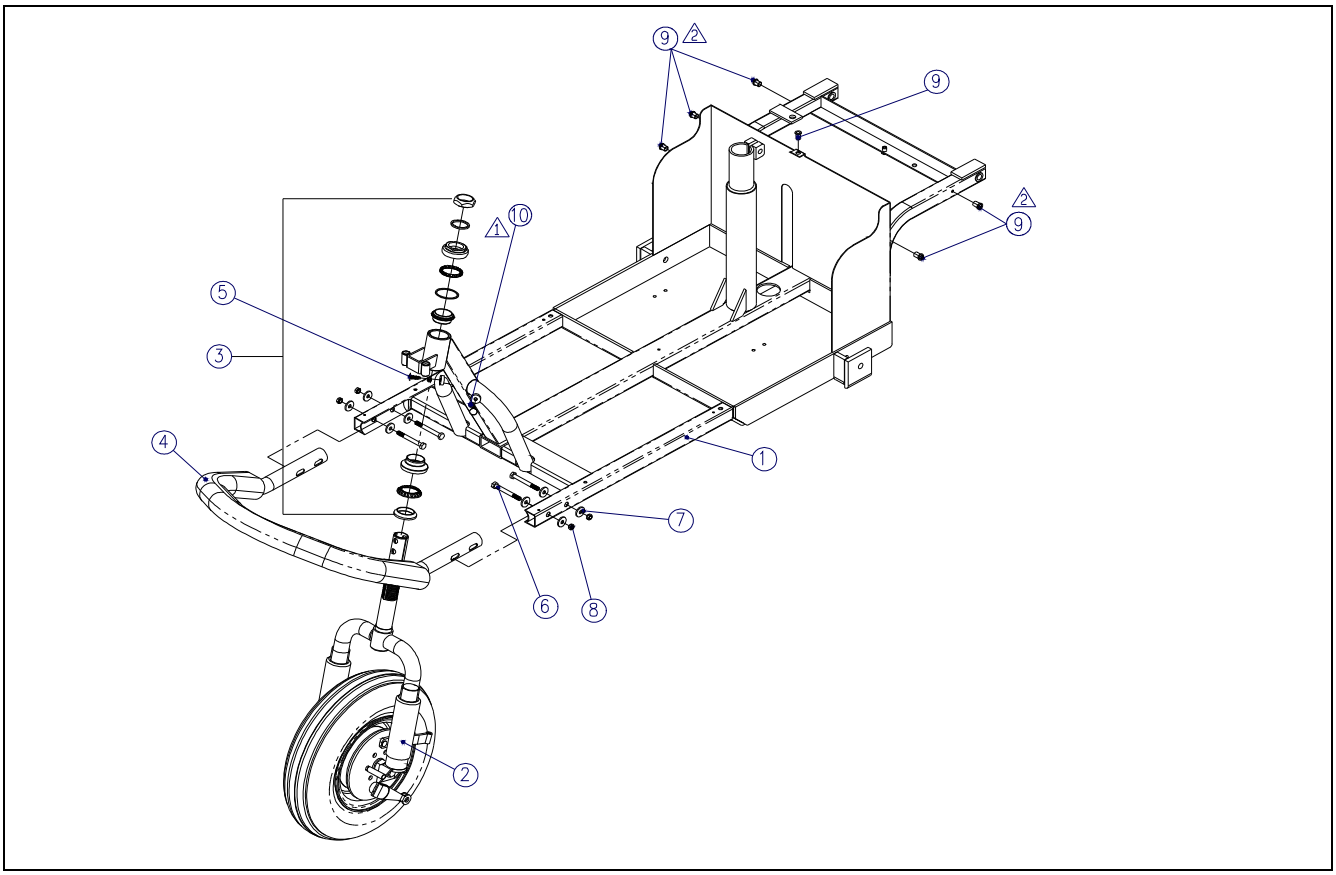
Pos	Article number	Units	Description	
1	-	1	Fork Weldment	
2	-	2	Tube cap	
3	-	4	Nylon bearing	
4	-	2	Spring stopper	
5	-	2	Compression Spring	
6	-	1	Lower tube weldment (LH)	
7	-	1	Lower tube weldment (RH)	
8	-	2	Dust cap	
-	110.00022.000	1	Front fork (3W)	

014: FRONT FORK ASSY (3W)



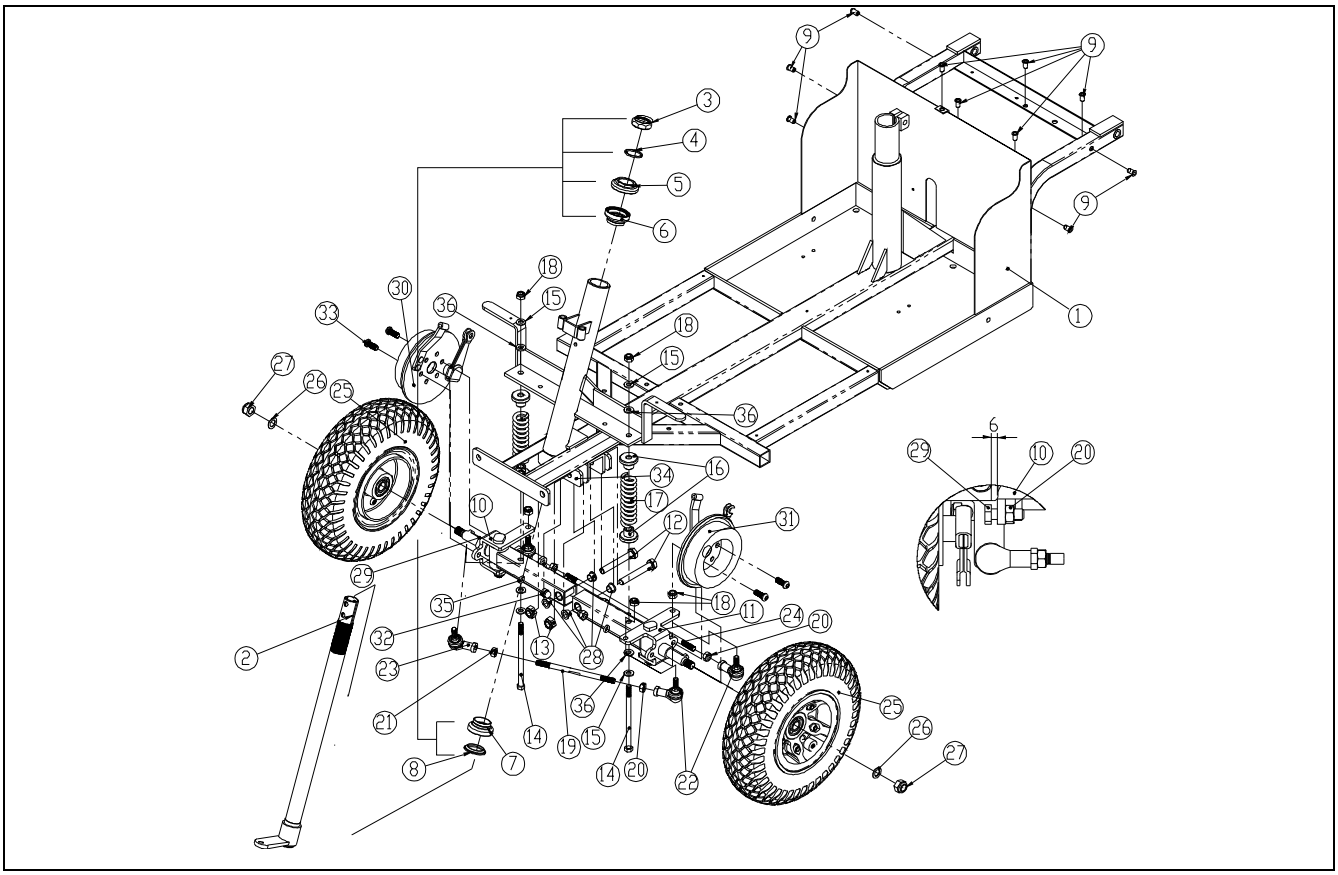
Pos	Article number	Units	Description	
1	170.00342.000	1	Front wheel assy (3W)	
2	110.00022.000	1	Front fork assy	
3	00000.2003	2	Flat washer M8	
4	00000.2203	2	Spring washer M8	
5	1009325	2	Bolt M8x25 (10.9)	
6	176.00172.000	1	Axle for front wheel	
7	176.00251.000	1	Collar for front wheel	
8	108.00271.000	1	Break assy for front wheel	
9	1001257	2	Nut M14xP1.5	

015: FRONT FRAME ASSY (3W)



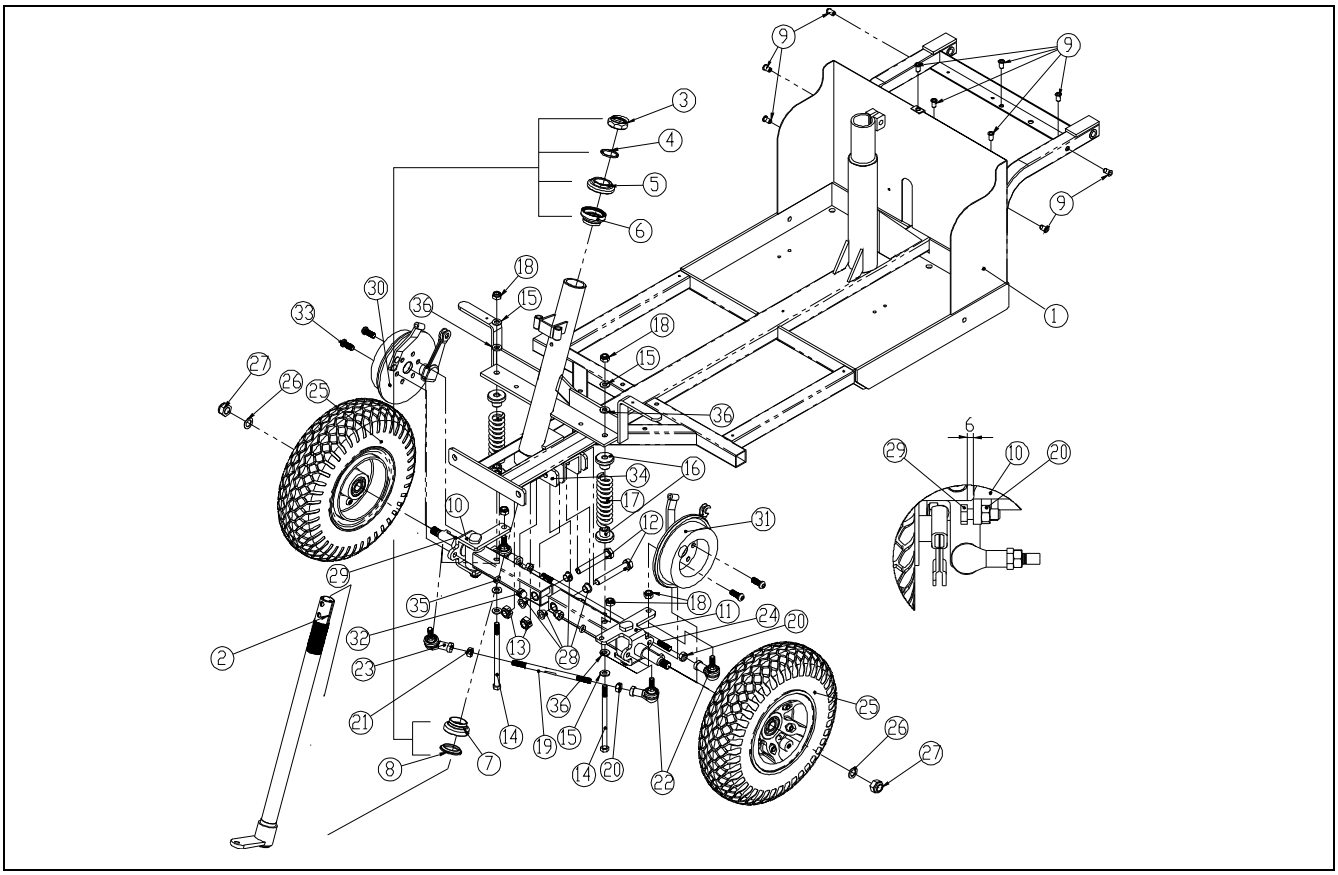
Pos	Article number	Units	Description	
1	110.00072.000	1	Front frame weldment	
2	-	1	Front fork & wheel assy	
3	015.07010.002	1	Head set	
4	126.00011.000	1	Front bumper	
5	-	2	Snap button	
6	00000.4104	4	Screw M6xP1.0x55L	
7	00000.2002	8	Flat washer W6	
8	00000.1701	4	Lock nut M6xP1.0	
9	1001261	6	Nut-inserts	
10	-	-	X	

016: FRONT FRAME ASSY (4W)



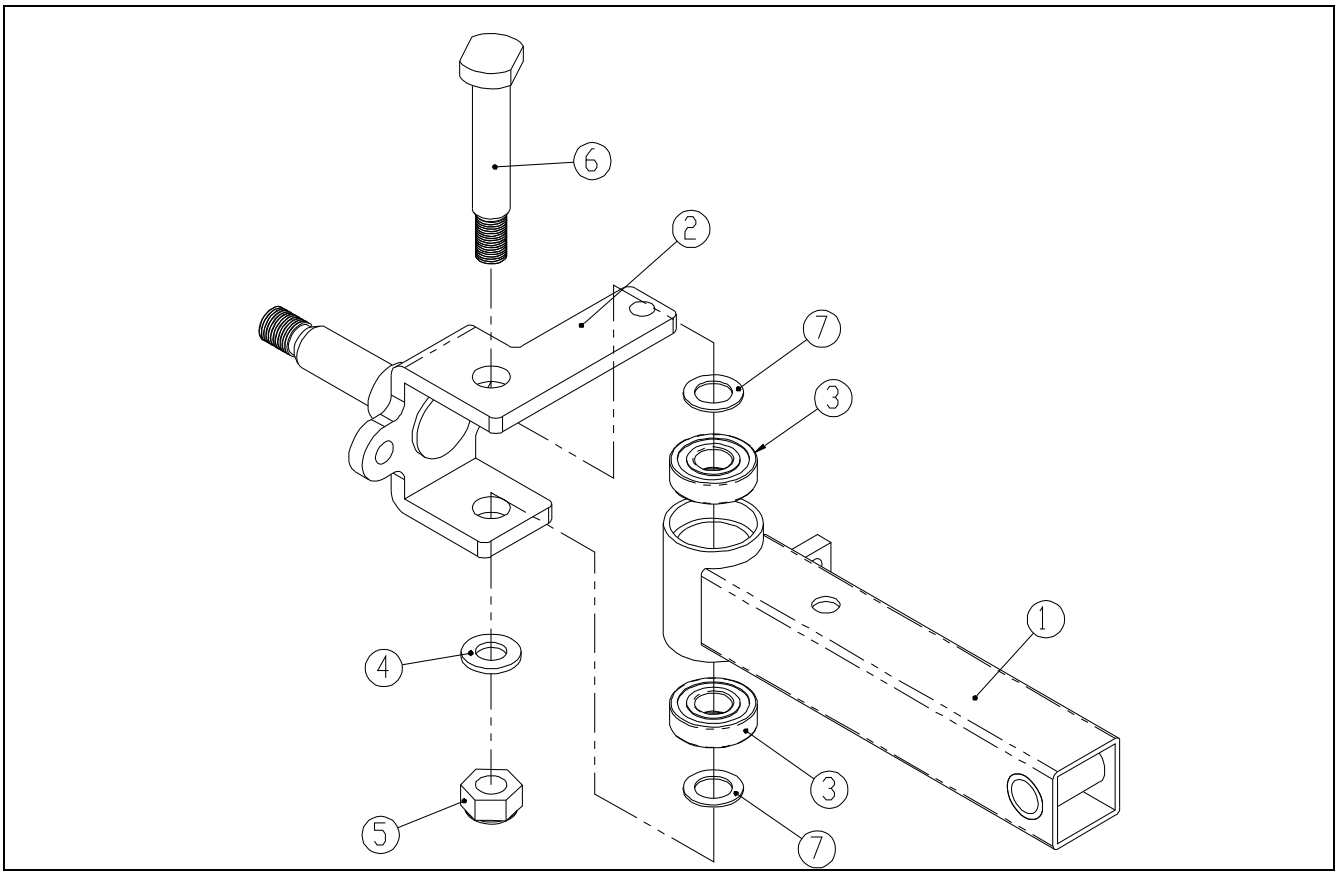
Pos	Article number	Units	Description	
1	1004626	1	Frontframe 4w weldment	
2	1004581	1	Steering tube	
3-8	015.07010.002	1	Head set	
9	1001261	10	Insert	
10	1004582	1	Knuckle RHS	
11	1004583	1	Knuckle LHS	
12	00000.4110	2	Bolt M10xP1.5*70mm	
13	00000.1703	2	Nut M10*P1.5	
14	001.03010.003	2	Bolt M8*P1.25*125mm	
15	00000.2103	4	Washer Ø8*Ø16*1.5	
16	1004584	4	Plug Ø30*20mm	
17	1004585	2	Spring Ø26.5*Ø16.5*94.5mm	
18	00000.1702	6	Nut M8*P1.25	
19	1004586	1	Rod Ø8*140mm	
20	1004597	4	Nut (rod) M8*P1.25	
21	1004598	2	Nut (rod) M8*P1.25	
22	1004588	2	Bearing (rod)	
23	1004589	2	Bearing (rod)	
24	1004587	1	Rod Ø8*300mm	

016: FRONT FRAME ASSY (4W)



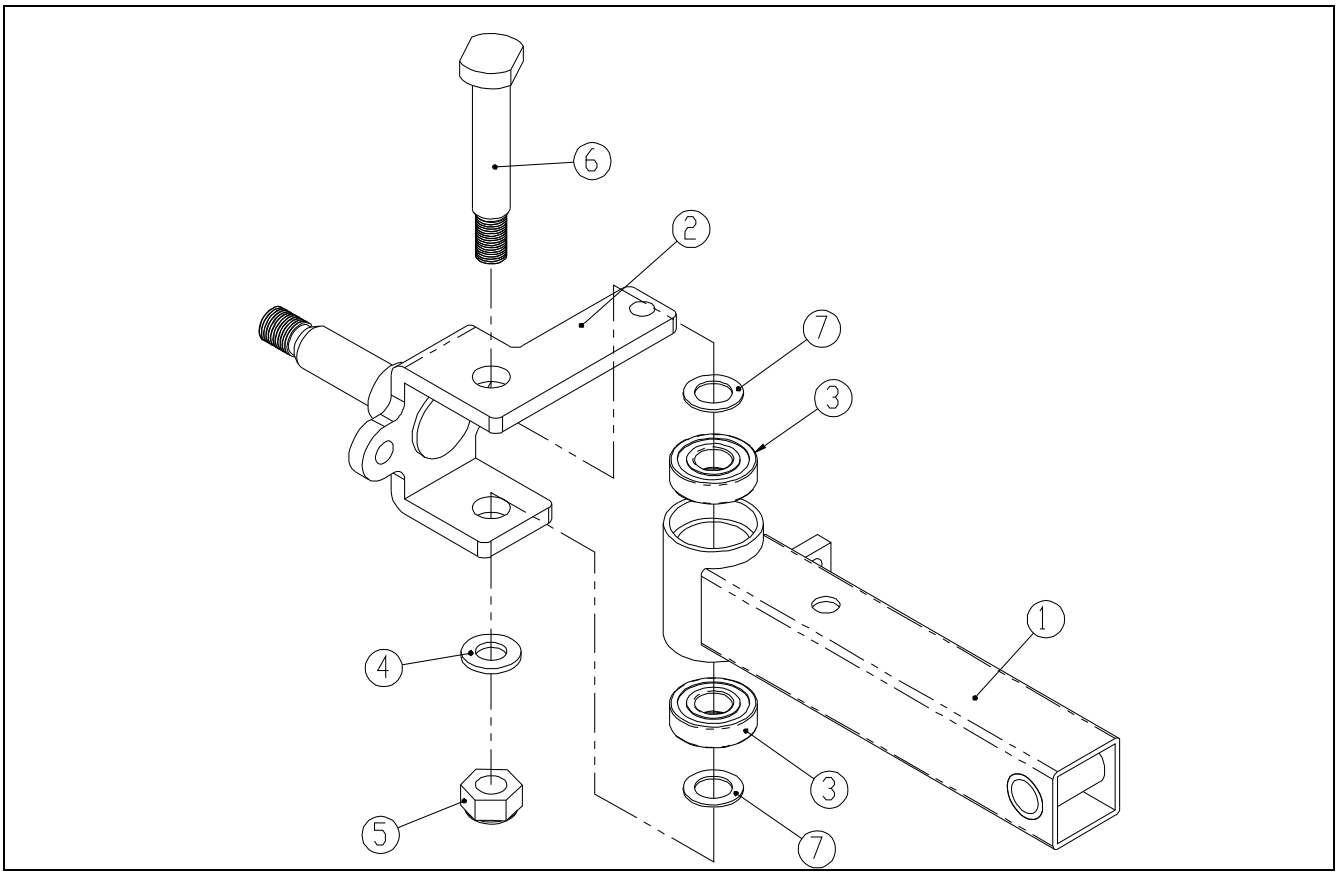
Pos	Article number	Units	Description	
25	1004591	2	Front wheel assy	
26	00000.2005	2	Washer Ø12*Ø19*1.0	
27	00000.1703	2	Lock nut M12*P1.75	
28	1004593	4	Bush Ø16*8mm	
29	00000.4135	2	Bolt M8*P1.25*25mm	
30	1004594	1	Brake assy RHS	
31	1004595	1	Brake assy LHS	
32	00000.1502	4	Nut M8*P1.25	
33	00000.4311	4	Bolt M8*P1.25*20mm	
34	1004596	2	Strip 5t*30*100	
35	00000.2203	4	Spring Washet M8 SW8	
36	00000.2103	4	Washer Ø8*Ø16*2.0t	

017: KNUCKLE RHS ASSY (4W)



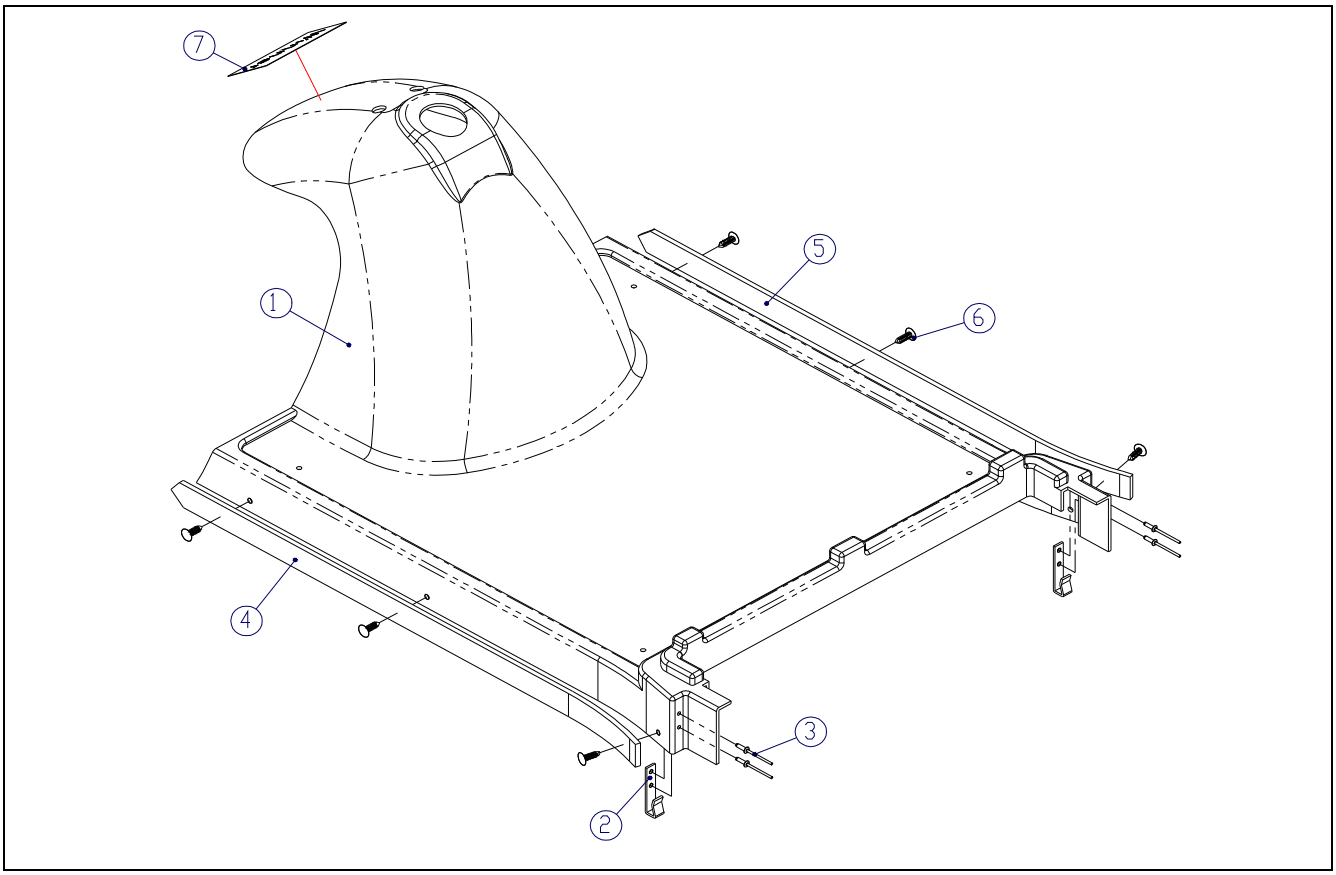
Pos	Article number	Units	Description	
1	1004599	1	Bracket	
2	1004600	1	Knuckle	
3	1004601	2	Ball bearing	
4	00000.2003	1	Washer M8	
5	00000.1702	1	Nut M8*P1.5	
6	1004602	1	Bolt M8*P1.5	
7	1004603	2	Washer	
-	1004582	1	Knuckle RHS assy (4W)	

018: KNUCKLE LHS ASSY (4W)



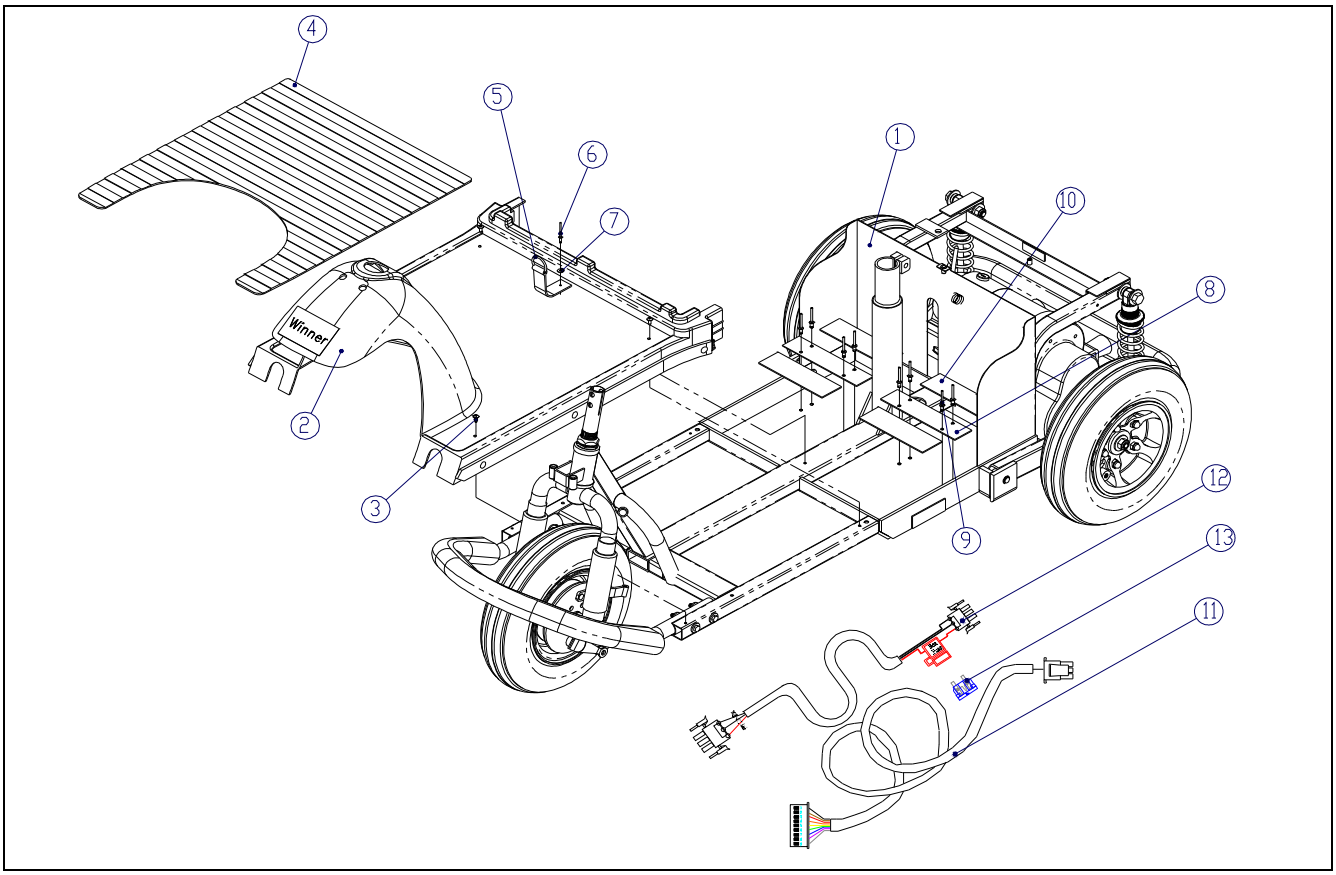
Pos	Article number	Units	Description	
1	1004604	1	Bracket	
2	1004605	1	Knuckle	
3	1004601	2	Ball bearing	
4	00000.2003	1	Washer M8	
5	00000.1702	1	Nut M8*P1.5	
6	1004602	1	Bolt M8*P1.5	
7	1004603	2	Washer	
-	1004583	1	Knuckle LHS assy (4W)	

019: FLOORPAN ASSY (3W)



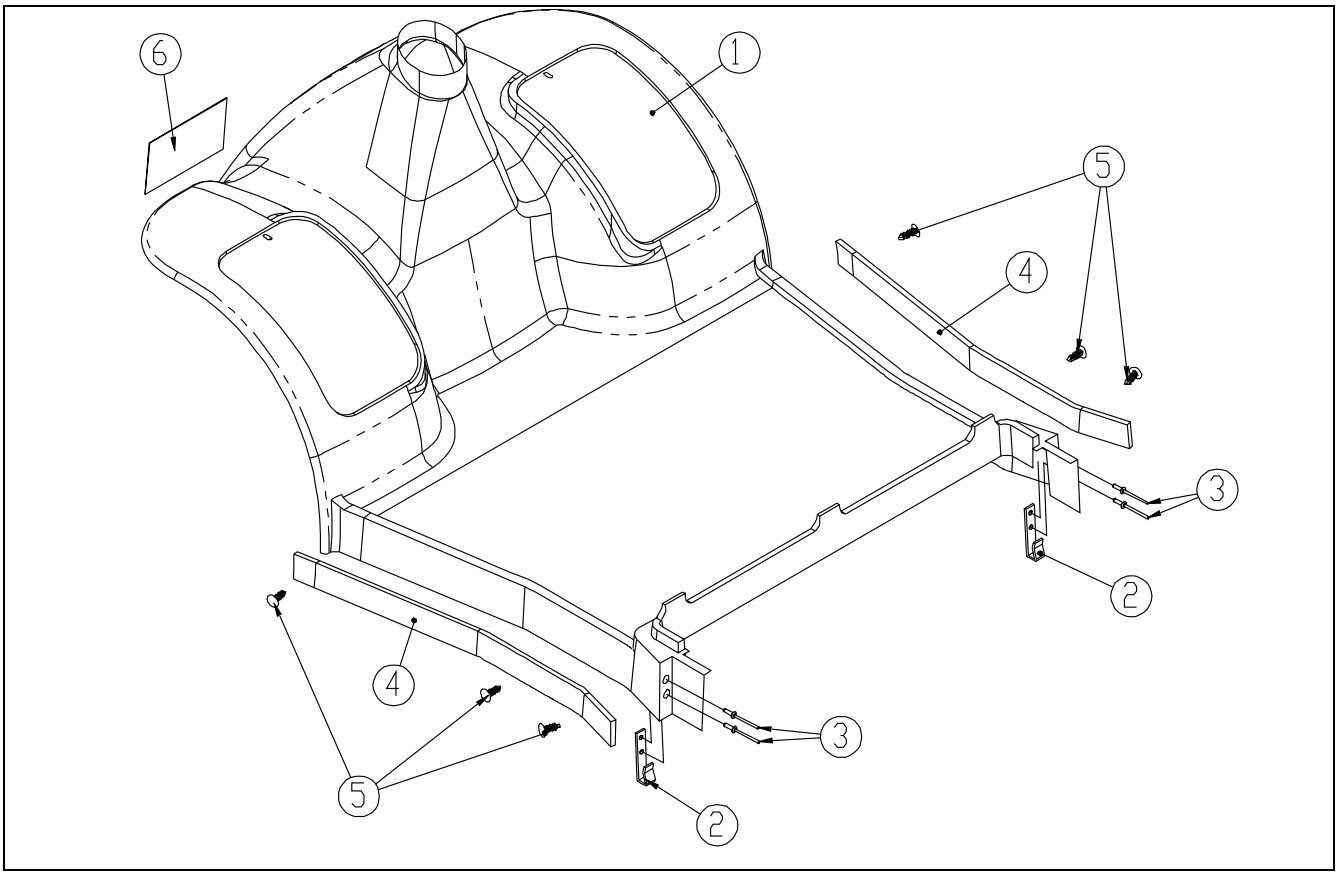
Pos	Article number	Units	Description	
1	-	1	Front cover 3w	
2	1001273	2	Shroud "J" bracket	
3	00001.1110	4	Rivet pop	
4	126.00032.000	1	Bumper trim (LH)	
5	126.00042.000	1	Bumper trim (RH)	
6	001.15010.002	6	Snap button	
7	008.00000.401	1	Label "Winner"	
-	1012256	1	Floorpan assy (3W) with floor mat	

020: SCOOTER ASSY (3W)



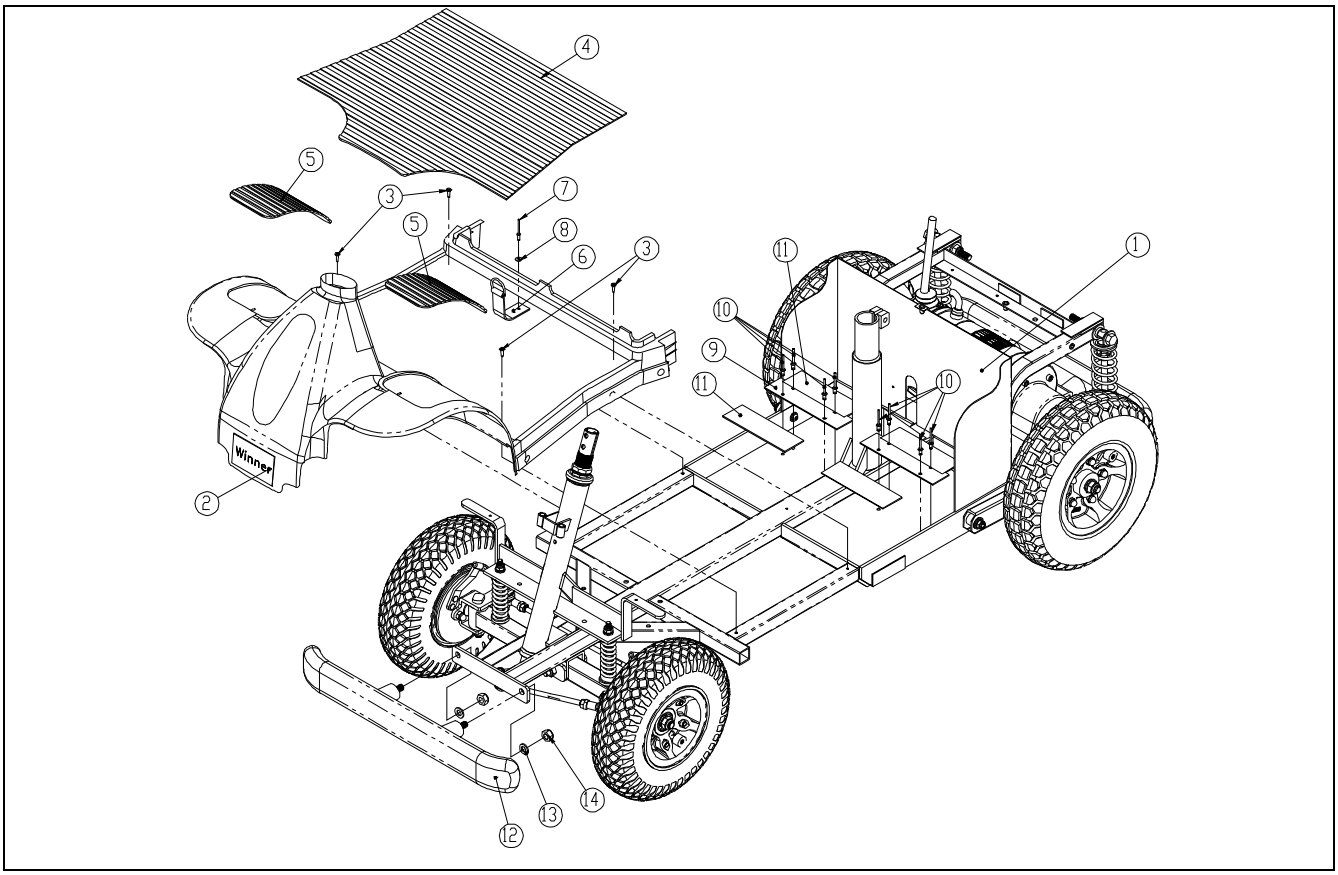
Pos	Article number	Units	Description	
1	-	1	Body frame assy	
2	1012256	1	Front floorpan assy with floor mat	
3	00000.3304	4	Screw 4,2x16	
4	257.00001.000	1	Floor mat 3w	
5	1001276	1	Holding Elastic Band	
6	00001.1110	1	Rivet pop 4-4	
7	00000.2108	1	Flat washer W3	
8	138.00011.000	2	Battery strap	
9	001.15010.001	8	Rivet pop 6-3	
10	1001277	4	Battery mat	
11	1001385	1	Main wire (Solo)	
	9003107	1	Main wire (S-Drive)	
12	055.00401.000	1	Charger extend cable	
13	005.01210.000	1	Fuse 10A	

021: FLOORPAN ASSY (4W)



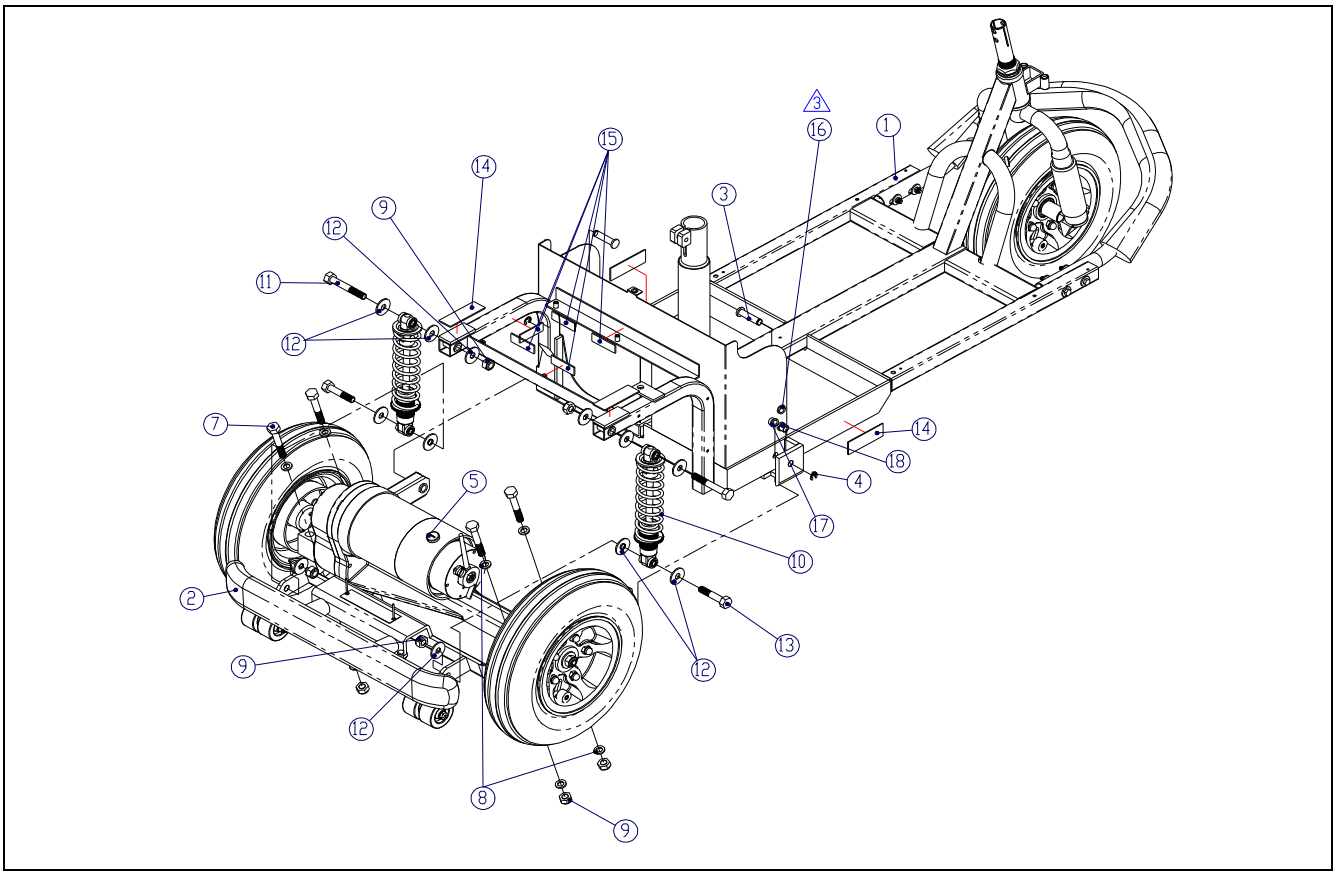
Pos	Article number	Units	Description	
1	1004579	1	Front cover	
2	1001273	2	Bracket 2t*10*80	
3	00001.1110	4	Pop rivet	
4	1004580	2	Side strip 5t*25*380L	
5	1004198	6	Snap button	
6	008.00000.401	1	Label "Winner"	
-	1004575	1	Floorpan assy (4W)	

022: SCOOTER ASSY (4W)



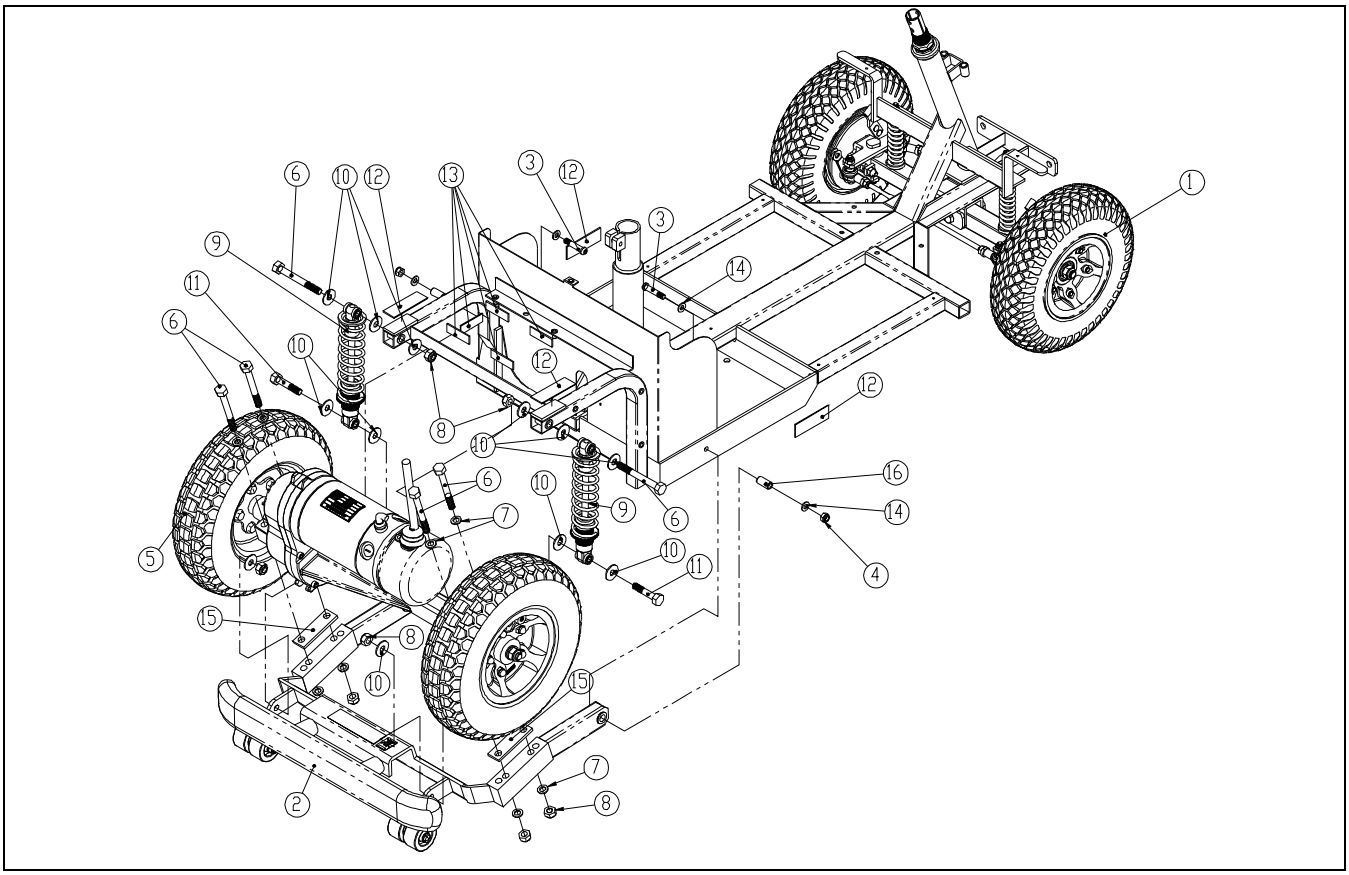
Pos	Article number	Units	Description	
1	-	1	Main frame assy	
2	1004575	1	Front cover assy	
3	00000.3304	4	Screw M4*16mm	
4	1004576	1	Floor mat 3.0t*390*490	
5	1004577	2	Foot step 3.0t*107*188	
6	1001276	1	Elastic strap	
7	00001.1110	1	Pop rivet	
8	00000.2108	1	Washer M3	
9	138.00011.000	2	Battery strap 38mm*800mm	
10	001.15010.001	8	Pop rivet	
11	1001277	4	Battery mat 2.0t*45*145	
12	126.00021.000	1	Bumper front 4w	
13	00000.2004	2	Washer M10	
14	00000.1703	2	Nut M10*P1.5	

023: BODY FRAME ASSY (3W)



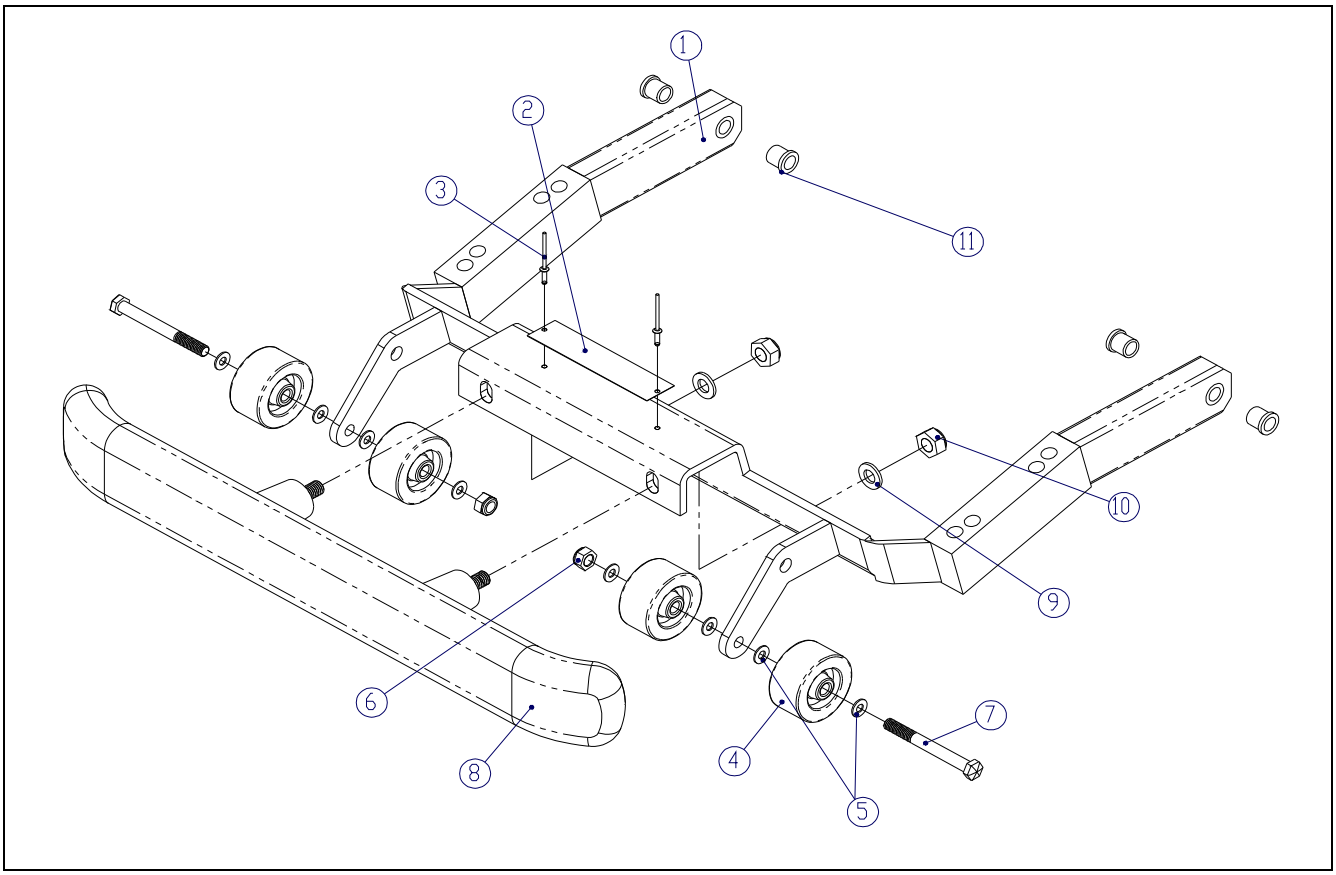
Pos	Article number	Units	Description	
1	-	1	Front frame assy	
2	-	1	Rear frame assy	
3	110.00141.000	2	Axle for rear frame	
4	00000.1402	2	Clip E7	
5	See 028 and 029	1	Transaxle assy	
6	-	-	X	
7	-	4	Screw M10xP1.5x90L (for Schmid transaxle)	
	1012699	4	Screw M10xP1.5x100L (for CT transaxle)	
8	00000.2004	8	Flat washer M10	
9	00000.1703	4	Lock nut M10xP1.5	
10	013.00000.022	2	Shock absorber	
11	00000.4110	2	Screw M10xP1.5x70L	
12	00000.2104	12	Flat washer M10	
13	1001267	2	Screw M10xP1.5x50L	
14	-	4	Velcro-hooks	
15	-	5	Velcro-hooks	
16	00000.2004	2	Flat washer M10	
17	1001233	2	Bushing	
18	1001271	2	Bushing	

024: BODY FRAME ASSY (4W)



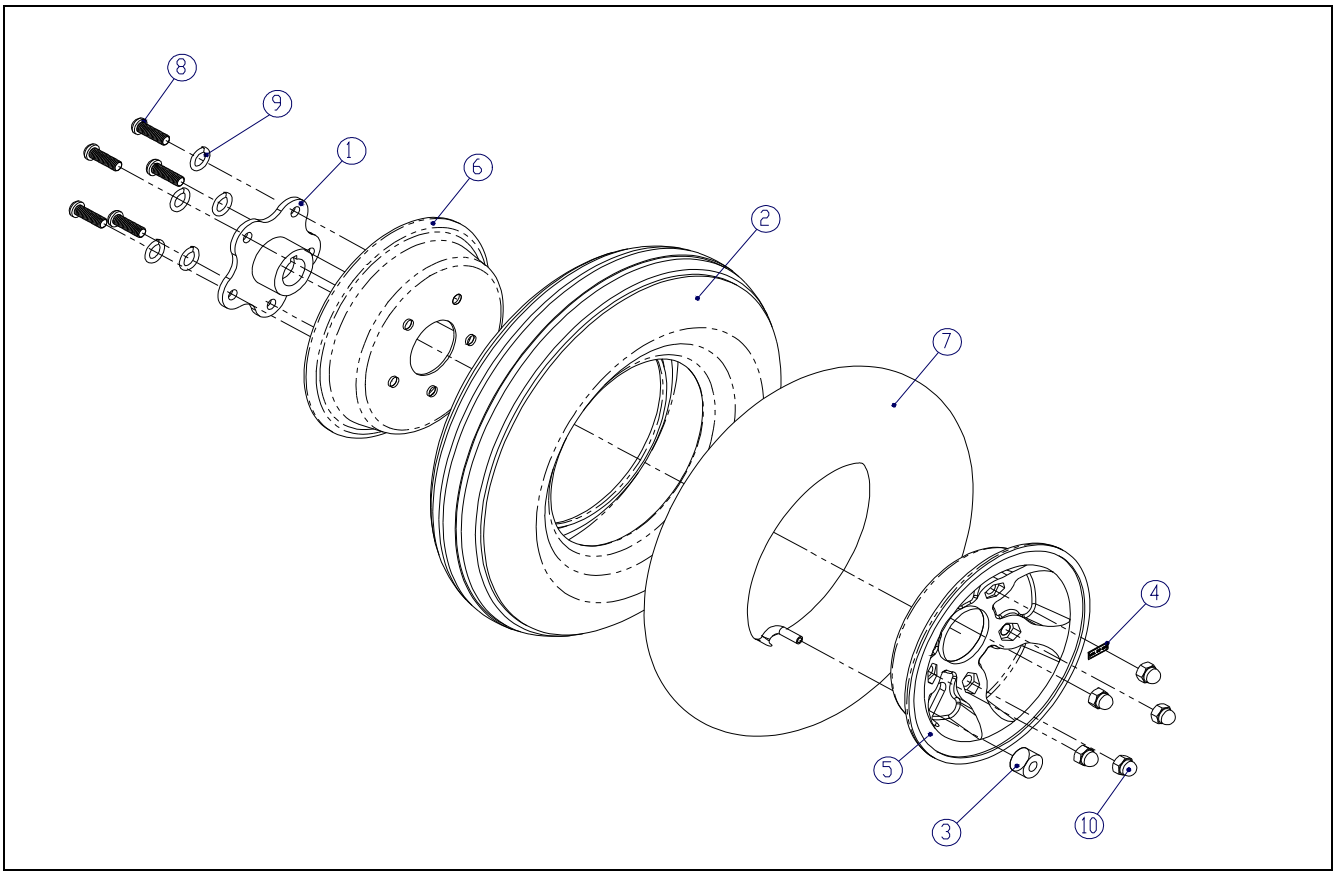
Pos	Article number	Units	Description	
1	-	1	Front frame assy 4w	
2	-	1	Rear frame assy (modified)	
3	00000.4105	2	Bolt M8xP1.25*40mm	
4	00000.1502	2	Nut M8*P1.25	
5	See 028 and 029	1	Transaxle assy	
6	-	6	Screw M10xP1.5x90L (for Schmid transaxle)	
	1012699	4	Screw M10xP1.5x100L (for CT transaxle)	
7	00000.2004	8	Washer M10*P1.5*90mm	
8	00000.1703	8	Nut M10*P1.5	
9	013.00000.022	2	Shock absorber 10*27*1.8t	
10	00000.2104	12	Washer M10	
11	00000.4110	2	Bolt M10*P1.5*50mm	
12	-	4	Velcro hooks strip	
13	-	5	Velcro hooks strip	
14	00000.2003	4	Washer M8	
15	9000689	2	Rubber transaxle strip	
16	1004606	2	Bush 20*8mm	

025: REAR FRAME ASSY



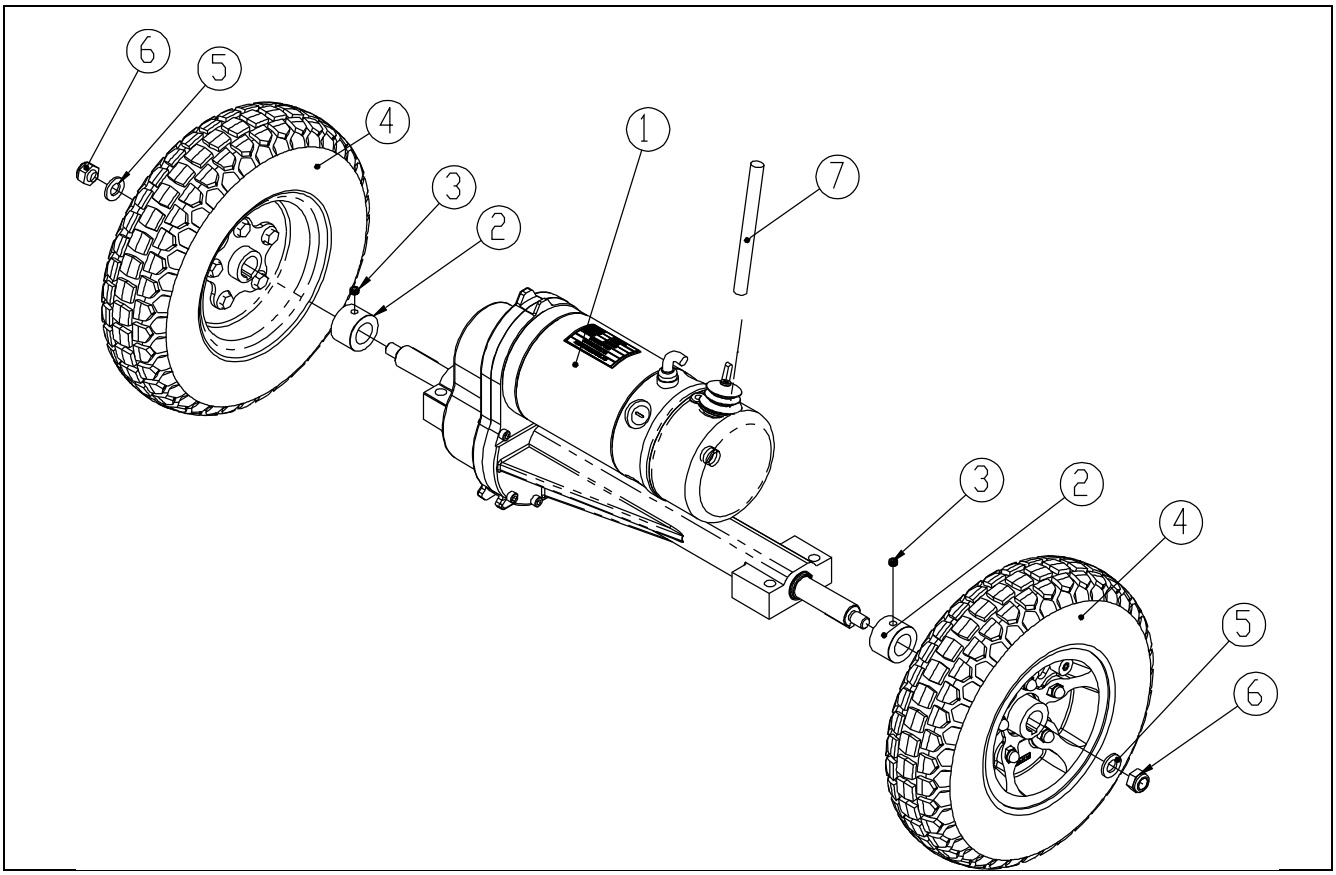
Pos	Article number	Units	Description	
1	110.00082.000	1	Rear Suspension Bridge	
2	-	1	Label "serial number"	
3	00001.1110	2	Rivet pop	
4	1010353	4	Plastic wheel	
5	00000.2003	8	Flat washer M8 black	
6	00000.1702	2	Lock nut M8xP1.25 black	
7	1001232	2	Screw M8xP1.25x75L black	
8	126.00021.000	1	Rear bumper	
9	00000.2004	2	Flat washer M10	
10	00000.1703	2	Lock nut M10xP1.5	
11	1001233	4	Bushing	
-	1001230	1	Rear frame assy	

026: REAR TIRE ASSY



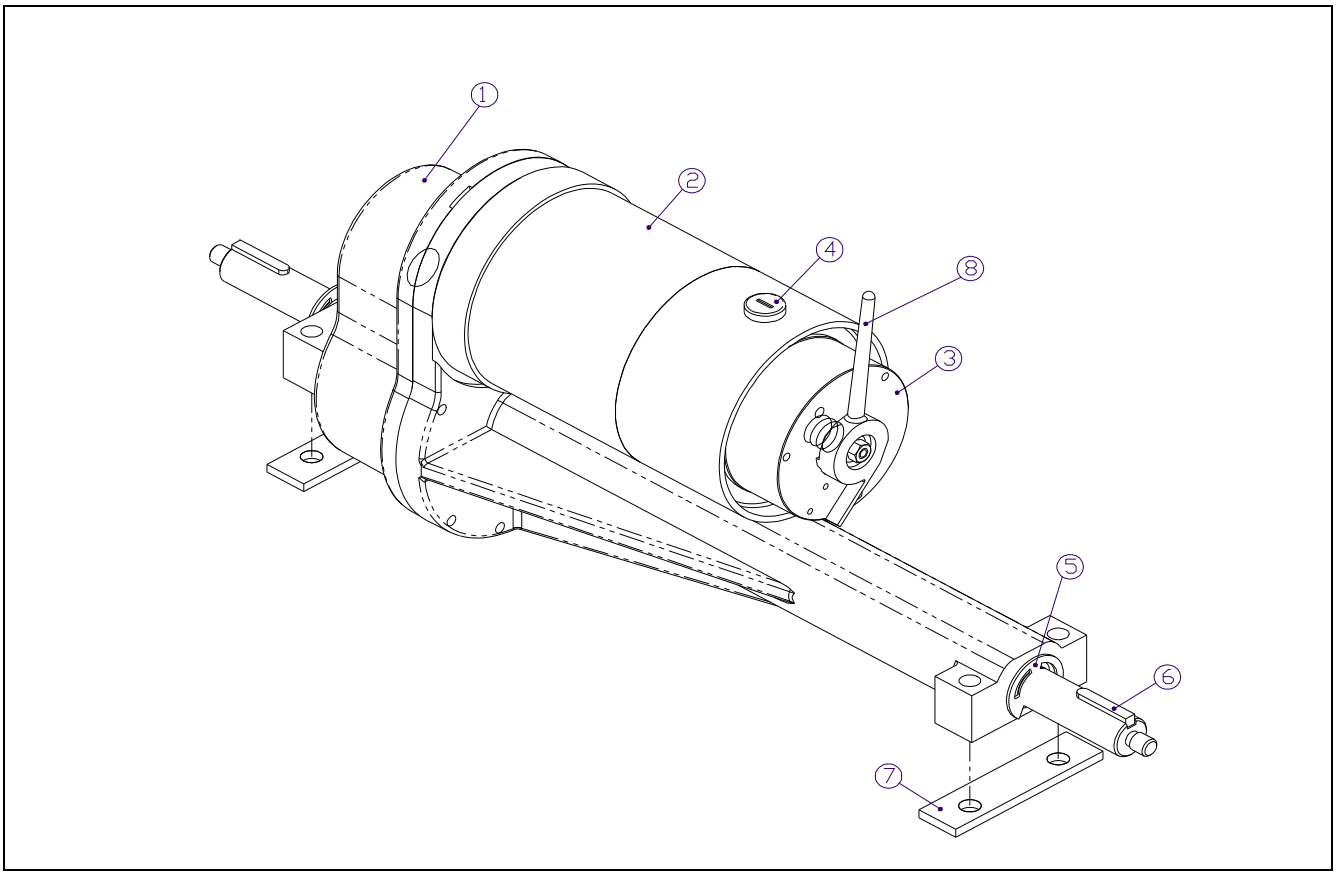
Pos	Article number	Units	Description	
1	176.00202.000	1	Hub	
2	172.00051.000	1	Outer tire 4.10x3.50x6"	
3	176.00191.000	1	Spacer Bush	
4	00001.1462	1	Label max 2.7 bar	
5	173.00052.000	1	Outer Rim 6"	
6	173.00042.000	1	Inner Rim 6"	
7	171.00021.000	1	Tube Inner with Cap	
8	00000.4135	5	Screw M8xP1.25x25L	
9	00000.2203	5	Spring washer SW8	
10	00000.1802	5	Nut M8xP1.25	
-	170.00352.000	2	Rear tire assy	

027: TRANSAXLE ASSY



Pos	Article number	Units	Description	
1	See 028 and 029	1	Transaxle	
2	1001246	2	Collar	
3	1001247	2	Set Screw M8xP1.25x5L	
4	170.00352.000	2	Rear tire Assy	
5	1001387	2	Flat washer 12x24x2.5	
6	00000.1703	2	Lock nut M12xP1.75	
7	1001242	1	Freewheel lever for Schmid transaxle	
	1011586	1	Freewheel lever for CT transaxle	

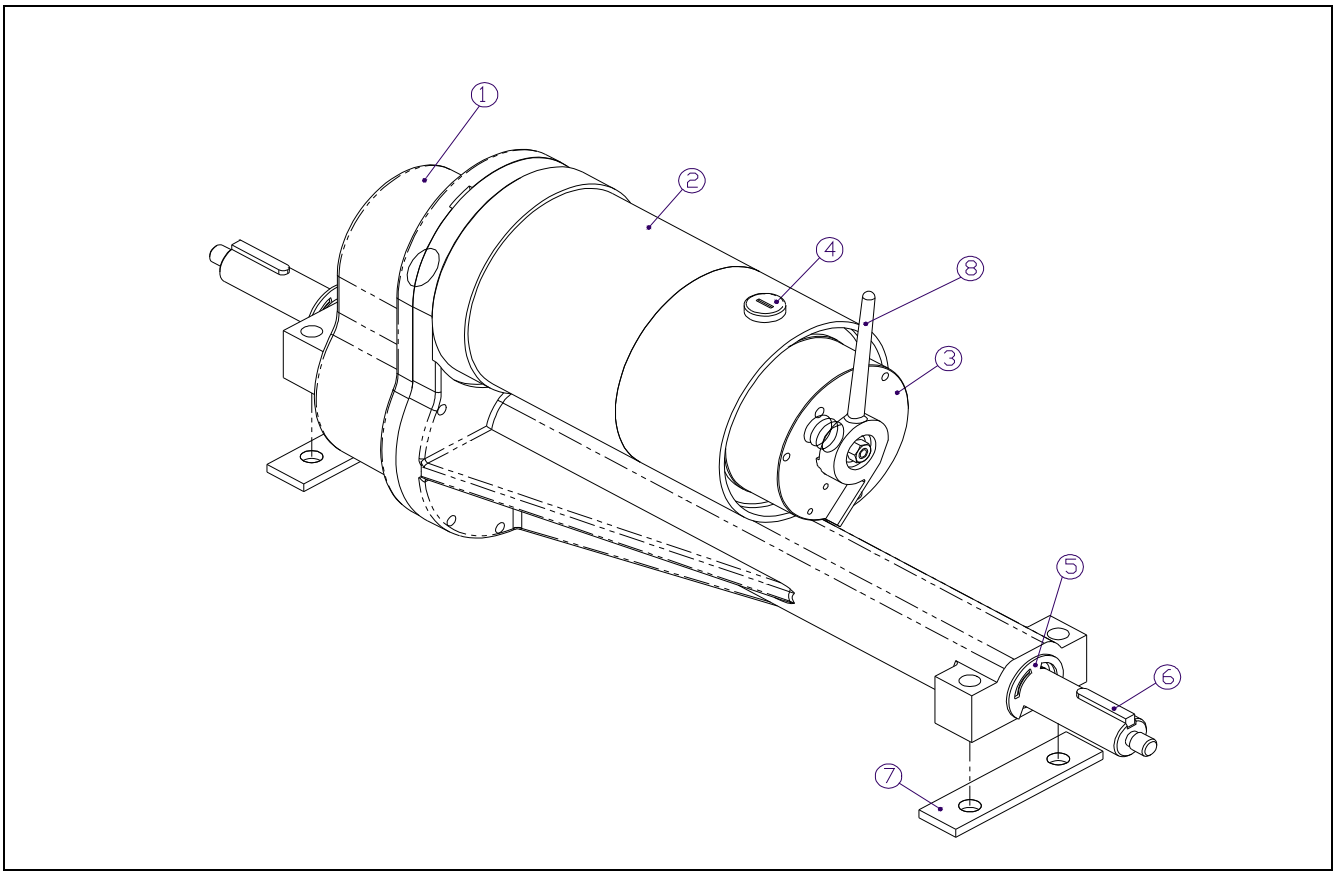
028: TRANSAXLE STANDARD



Pos	Article number	Units	Description	
1	1002356	1	Transaxle Schmid (Solo)	
	1009685	1	Transaxle Schmid (S-Drive)	
	1012904	1	Transaxle CT (S-Drive)	
2	-	1	Motor 15 kmph	
3	1003267	1	Brake Assy Schmid	
	9003297	1	Brake Assy Schmid from 09-2008 + S-Drive	
	1011584	1	Brake Assy CT	
4	1002646	2	Motor brush till 08-2008	
	103.00031.000	2	Motor brush from 09-2008	
	1011585	1	Motor brush set CT	
5	1001239	2	Clip E19	
6	103.00091.000	2	Wedge for Schmid transaxle	
	1012123	2	Wedge for CT transaxle	
7	9000689	2	Transaxle mat	
8	-	-	-	

-	1003209	1	Friction plate for Schmid transaxle	
-	1015444	1	Motor brake cover Schmid transaxle	

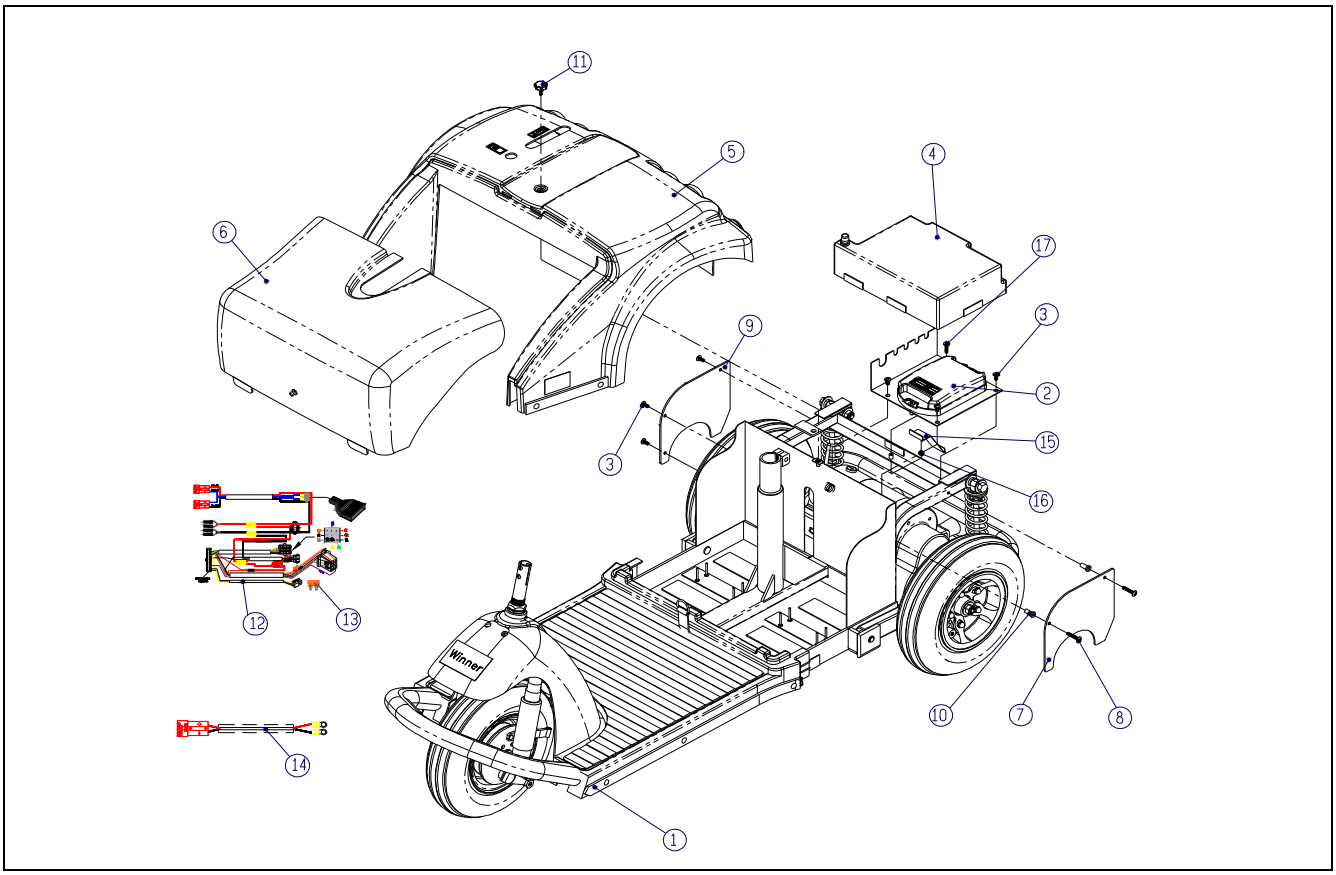
029: TRANSAXLE ALPINE



Pos	Article number	Units	Description	
1	9003239	1	Transaxle Alpine, Solo (max. 9 km/h)	
	1009686	1	Transaxle Alpine, S-Drive (max. 9 km/h)	
2	-	1	Motor 15 kmph	
3	1003267	1	Brake Assy	
	9003297	1	Brake Assy Schmid from 09-2008 + S-Drive	
4	1002646	2	Motor brush till 08-2008	
	103.00031.000	2	Motor brush from 09-2008	
5	1001239	2	Clip E19	
6	103.00091.000	2	Wedge	
7	9000689	2	Transaxle mat	
8	-	-	-	

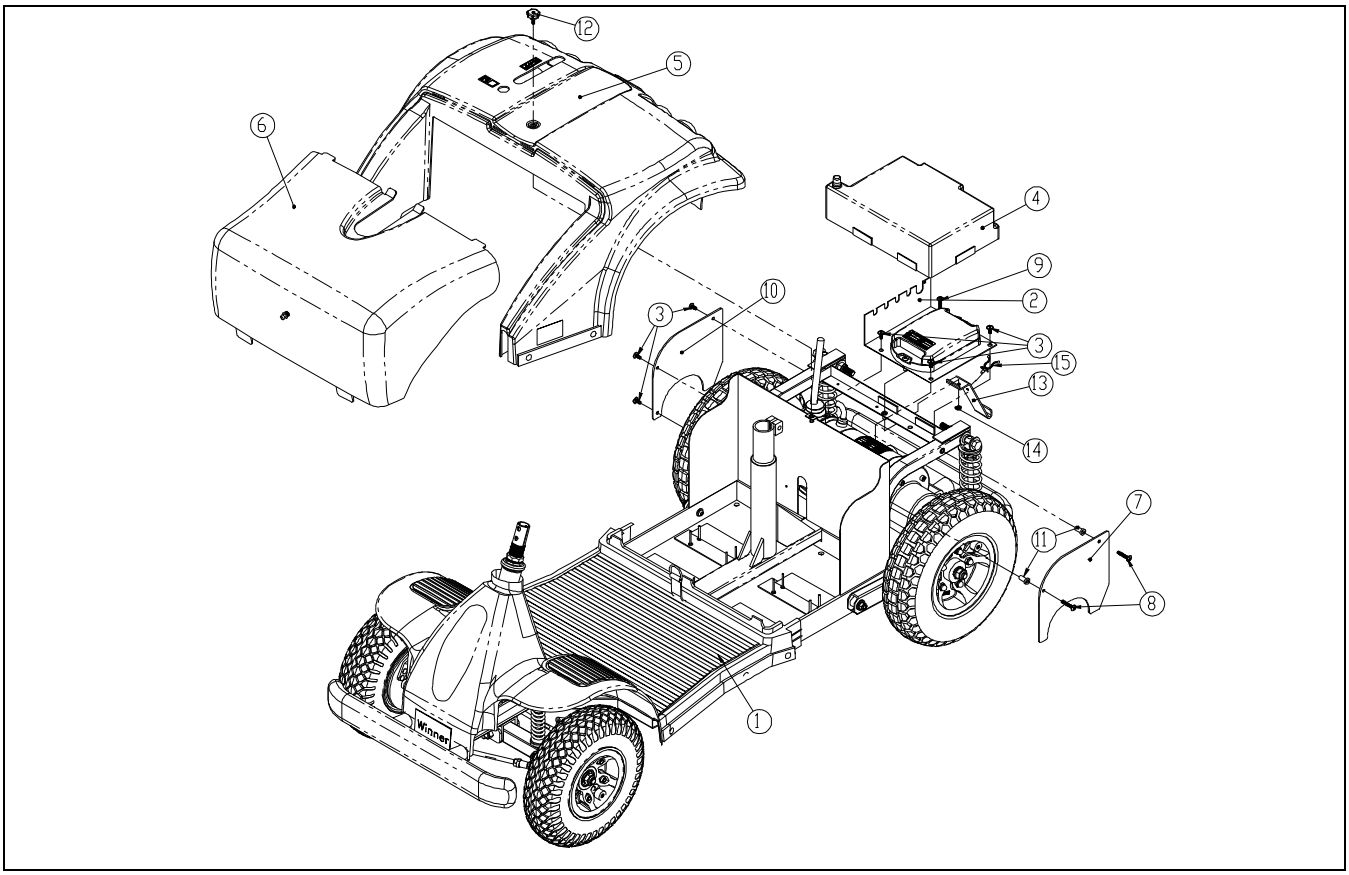
-	1003209	1	Friction plate	

030: SCOOTER ASSY (3W)



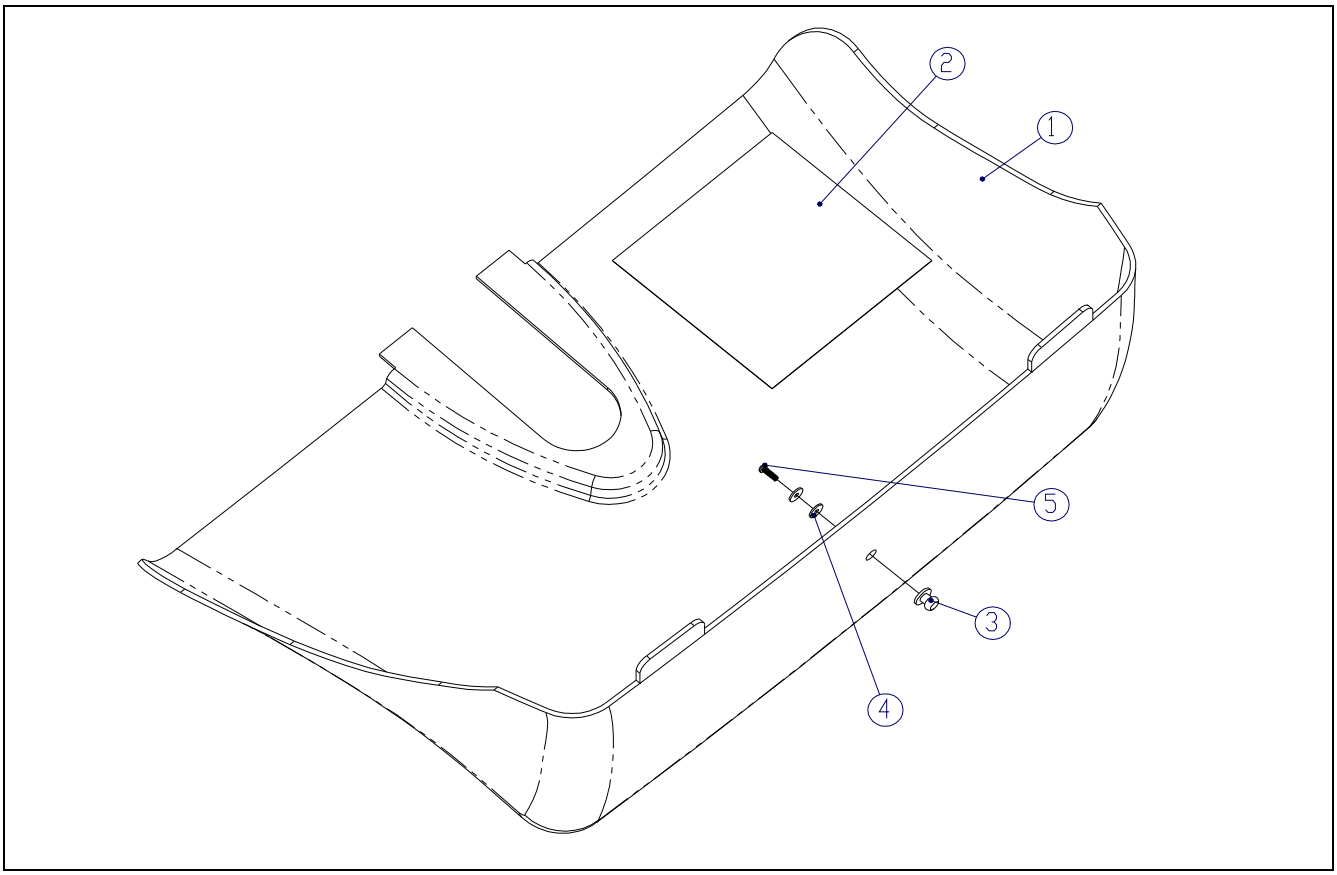
Pos	Article number	Units	Description	
1	-	1	3W scooter assy	
2	-	1	Controller assy	
3	00000.3200	6	Screw M5xP0.8x12L	
4	No spare part	1	Controller cover assy	
5	052.00312.000	1	Rear motor cover assy	
6	052.00452.000	1	Battery cover assy	
7	1001302	1	Transaxle plate (LH)	
8	-	2	Screw M5xP0.8x30L	
9	1001304	1	Transaxle plate (RH)	
10	1001305	2	Bush	
11	1001306	1	Star knob	
12	055.00421.000	1	Controller wire assy (Solo)	
	9003109	1	Power harness (S-Drive)	
13	005.01180.000	1	Fuse 5A (Solo)	
	9003553	1	Fuse 5A (S-Drive)	
14	055.00431.000	2	Battery power wire (Solo)	
	9003108	2	Battery power wire (S-Drive)	
-	9002752	2	Set battery connection covers	
-	99117	2	Fuse 100A (S-Drive)	
15	1001307	1	Fix bracket rear shroud	
16	00000.1700	1	Lock nut M5xP0.8	
17	00000.3204	1	Screw M5xP0.8x25L	

031: SCOOTER ASSY (4W)



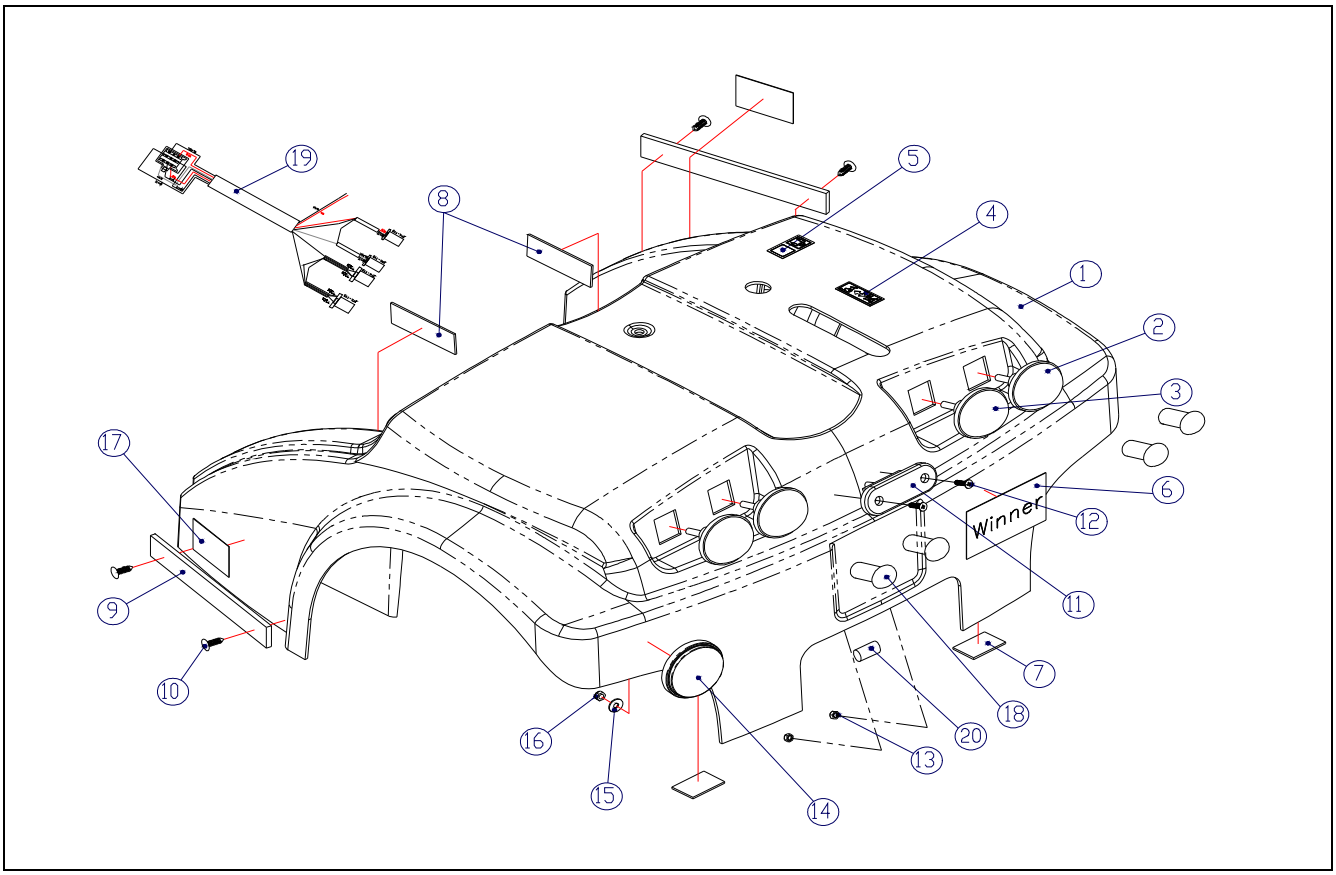
Pos	Article number	Units	Description	
1	-	1	4w scooter por assy	
2	-	1	Controller assy	
3	00000.3200	6	Bolt M5*P0.8*12mm	
4	1001288	1	Controller cover	
5	052.00312.000	1	Rear cover assy	
6	052.00452.000	1	Battery cover assy	
7	1001302	1	Mud guard 1.2t*168*187 LH	
8	-	2	Bolt M5*P0.8*30mm	
9	00000.3204	1	Bolt M5*P0.8*25mm	
10	1001304	1	Mud guard 1.2t*168*187 RH	
11	1001305	2	Bush 12*23mm	
12	1001306	1	Knob	
13	1001307	1	Bracket for rear cover	
14	00000.1700	1	Lock nut M5*P0.8	
15	-	1	Twist cable clip	

032: BATTERY COVER ASSY



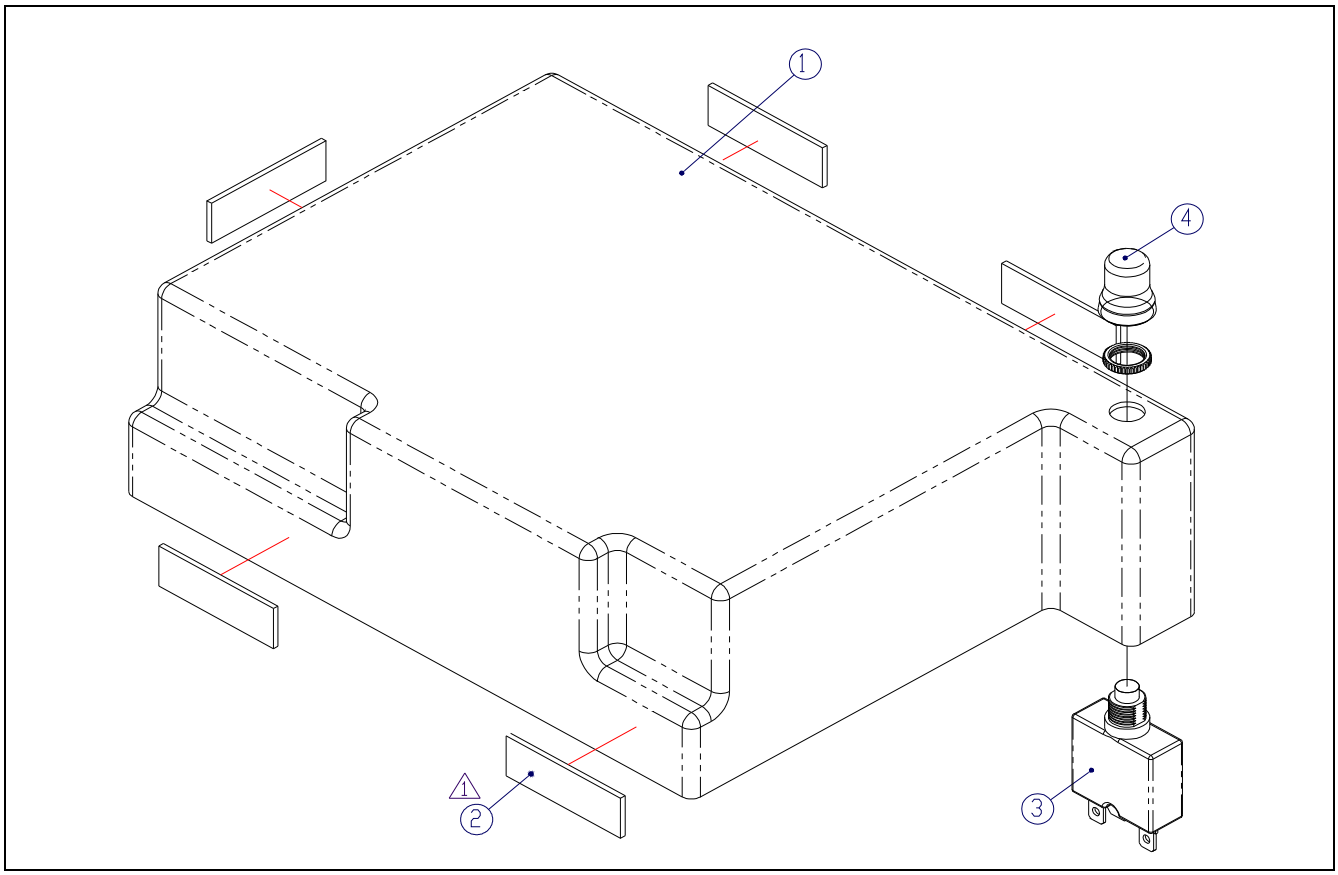
Pos	Article number	Units	Description	
1	-	1	Battery cover	
2	008.00000.591	1	Label circuit diagram	
3	1001284	1	Window post	
4	00000.2009	2	Flat washer M3	
5	-	1	Screw M3xP0.5x10L	
-	052.00452.000	1	Battery cover assy	

033: REAR MOTOR COVER ASSY



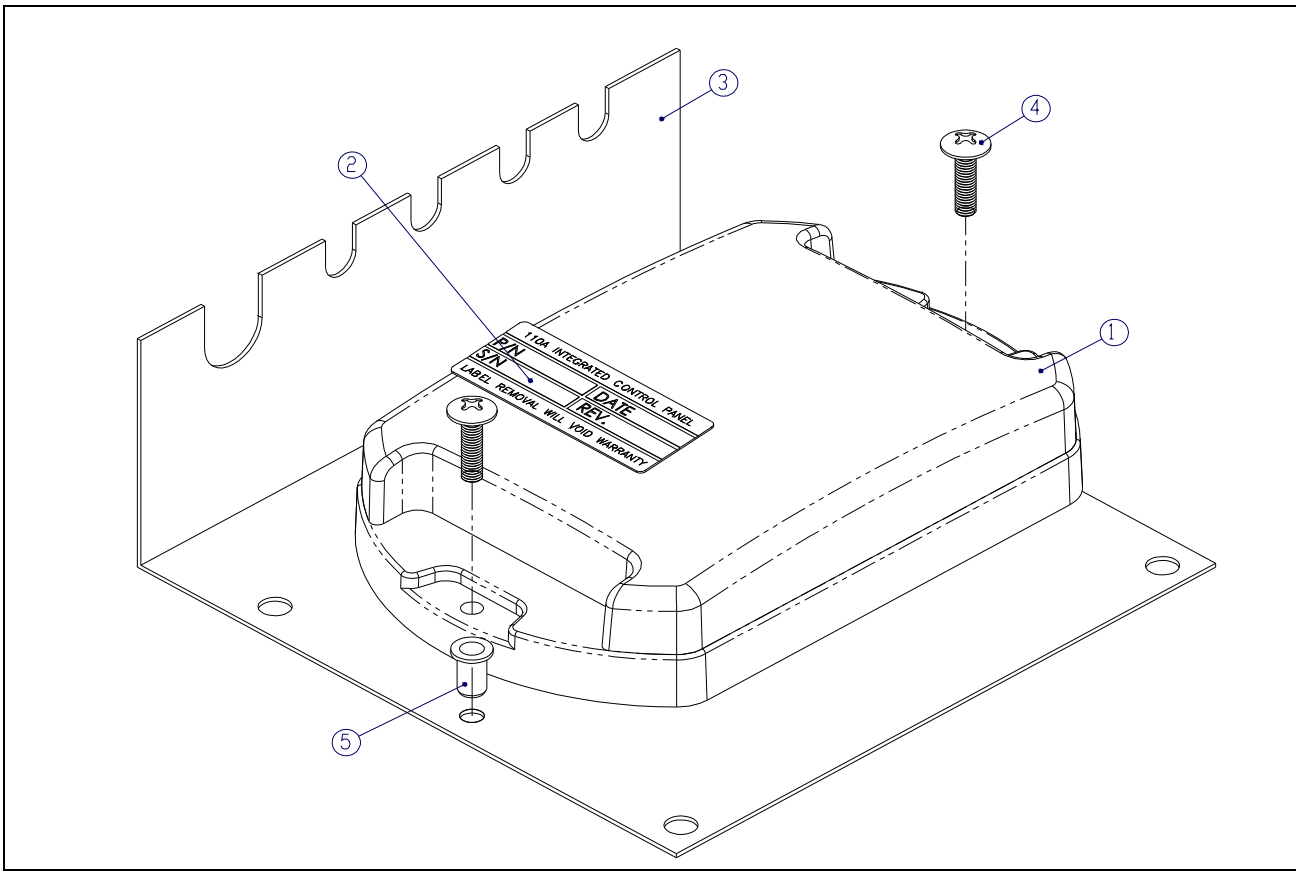
Pos	Article number	Units	Description	
1	052.00392.000	1	Rear motor cover	
2	264.00101.000	1	Rear indicator assy (orange)	
3	1014195	1	Rear light assy (red)	
4	008.00000.411	1	Label engage/release	
6	008.00000.401	1	Label "Winner"	
7	-	2	Velcro-loops	
8	-	2	Velcro-loops	
9	126.00052.000	2	Bumper trim	
10	001.15010.002	4	Snap button	
11	1001280	1	Break light assy	
12	00000.3600	2	Screw M4xP0.7x16L	
13	00000.1705	2	Lock nut M4xP0.7	
14	051.00021.000	1	Reflector (red)	
15	00000.2001	1	Flat washer M5	
16	00000.1700	1	Lock nut M5xP0.8	
18	1001281	4	Bulb DC24V 5W T9.5	
19	055.00411.000	1	Rear light cable assy	
-	052.00312.000	1	Rear motor cover assy	

034: CONTROLLER COVER ASSY



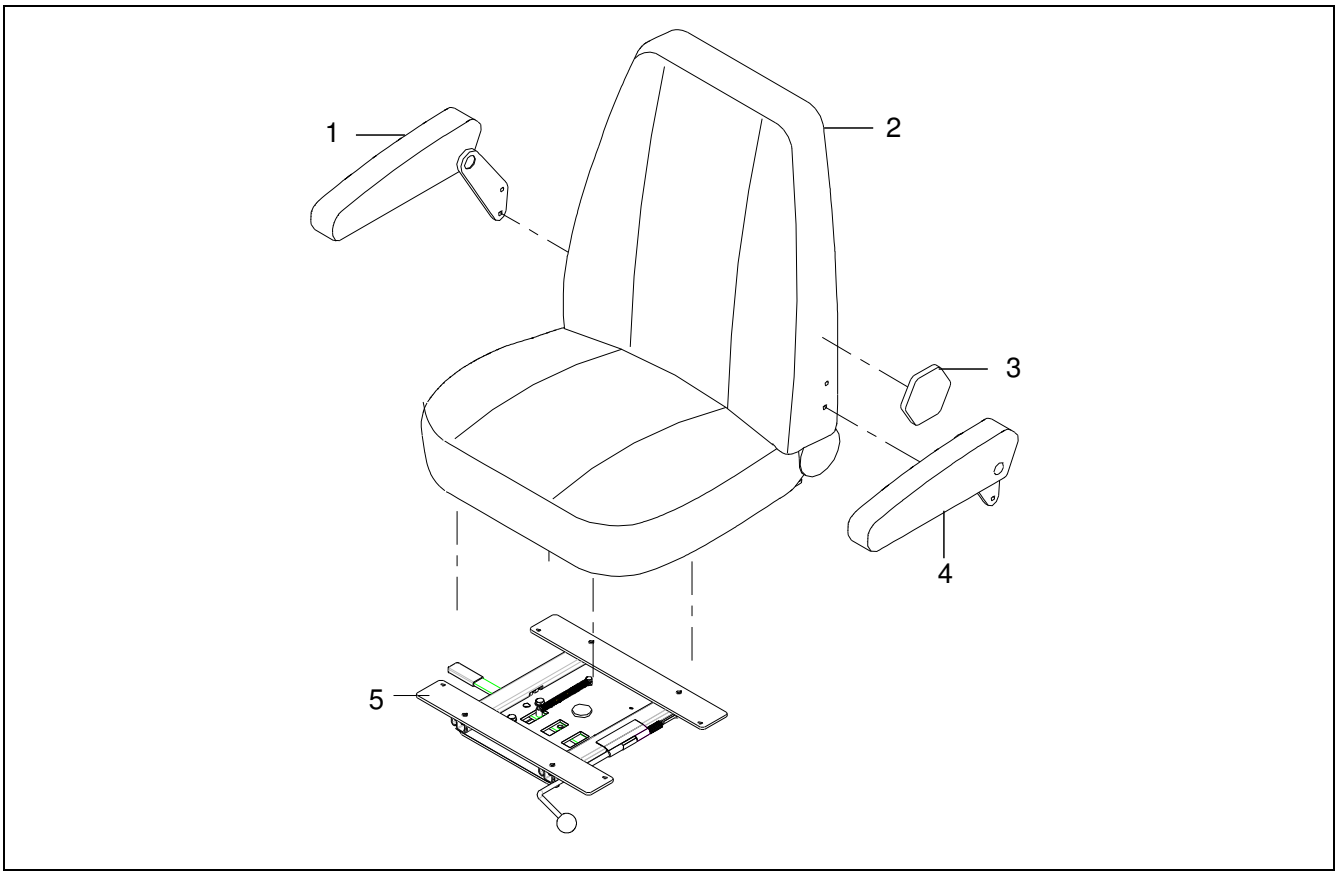
Pos	Article number	Units	Description	
1	1001288	1	Cover of controller	
2	-	5	Velcro-loops	
3	1001290	1	Circuit breaker 60A (Solo)	
4	1001291	1	Cap of circuit breaker 60A (Solo)	

035: CONTROLLER



Pos	Article number	Units	Description
1	162.00031.000	1	Controller 110A (not programmed)
	1012504	1	S-Drive controller 140A (D51313) (From 20-10-2009 MW1057)
2	-	1	Label control panel s/n
3	1001295	1	Controller bracket (Solo)
	9003089	1	Controller bracket (S-Drive)
4	-	2	Screw M5xP0.8x20L
5	-	2	Nut-inserts

036: SEAT & SEAT FRAME



Pos	Article number	Units	Description	
1	118.00221.000	1	Armrest, right	
2	1002861	1	Master seat with armrests	
3	1003383	1	Lumbar knob	
4	118.00231.000	1	Armrest, left	
5	9000034	1	Seat frame with slider (right-side operation)	
-	9000042	1	Seat fixation strip	
-	1366	1	Plastic cover for seat fixation strip	
-	9004025	1	Seat post	
-	9003907	1	Nylon bearing seat post	
-	1002241	1	Master seat with seat frame	

01-01-2012:
Version 2012v1

Page	Drawing	Position	Changes
15-19	-	-	Changed the driving programs

14-03-2012:
Version 2012v2

Page	Drawing	Position	Changes
54	28	1	Changed drawing description and description article numbers 1002356, 1009685 and 1012904
55	29	1	Changed drawing description and description article numbers 9003239 and 1009686

01-01-2013:
Version 2013v1

Page	Drawing	Position	Changes
56	30	-	Added article number 9002752
62	36	-	Changed article number 9000933 into 9003907

01-01-2014:
Version 2014v1

Page	Drawing	Position	Changes
14	-	-	Added reference to the FTP server where driving programs can be downloaded
16-19	3.3 - 3.6		Updated controller settings and made a difference between MK1 and MK2
21-22	3.8 – 3.9		Updated controller settings and made a difference between MK1 and MK2
49	20	13	Changed description article number 005.01210.000
64	35	1	Deleted article number 9003481 and changed article numnber 9003788 into 1012504

01-01-2015:
Version 2015v1

Page	Drawing	Position	Changes
8			Updated warranty text
28	1	4,5,12,13	Deleted article numbers 00000.4134, 1001675, 001.03160.001 and 001.03160.002
29	2	4,5,12,13	Deleted article numbers 00000.4134, 1001675, 001.03160.001 and 001.03160.002
34	7	-	Added article numbers 108.00291.000 and 1009813
36	9	6	Deleted article number 1001286
37	10	3,13	Deleted article numbers 00000.7718 and 0000.4134 Added article number 265.00081.000
38	11	10	Deleted article number 0000.4134
41	14	5	Deleted article number 1009325
51	23	7,14,15	Deleted article numbers 1001266, 1001268 and 1001269
52	24	6,12,13	Deleted article numbers 1001266, 1001268 and 1001269
56	28	-	Added article number 1015444
58	30	8	Deleted article number 1001303
59	31	8	Deleted article number 1001303
60	32	5	Deleted article number 1001286
61	33	5,7,8,17	Deleted article numbers 1001268, 1001269 Deleted position 8 (article number 008.00000.421) and position 17 (article number 008.00000.291), completely
62	34	2	Deleted article number 1001268
63	35	1	Changed desription article number 1012504
64	36	-	Changed article number 9000932 into 9004025 Added article number 1002241

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